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BOMBAY UNIVERSITY

64 Kolhapur, Rajaram College
65 Poona, Deccan College
,, Fergusson College
,, College of Engineering
,, Agricultural College
66 BOMBAY Elphinstone College
,, Wilson College
,, St. Xavier's College
,, Grant Medical College
,, Government Law School
,, Davar's Commerce College*
,, Byramjee Jeejebhoy
,, Veterinary College*
,, Victoria Jubilee Tech. Inst.*
,, St. Mary's College*
67 Baroda College
68 Bhavnagar, Samaldas College
69 Junagadh, Bahauddin College
70 Ahmedabad, Gujrat College
,, Theological College*
Ahmedabad M. Training College*
71 Karachi, Dayaram Jethmal College
04 Hyderabad, Training College*
05 Rajkote, Rajkumar College*
06 Dharwar Training College*

PANJAB UNIVERSITY

72 Bahawalpur Sadiq Dane College
74 LAHORE Government College
,, D. A.—V. College
,, Forman Christian College
,, Dyal Singh College
,, Islamia College
,, Oriental College
,, Law College
,, Medical College
,, Central Training College
,, Govt. School of Engineering
,, Aitchison Chiefs College*
,, Punjab Veterinary College*
,, St. John's College*
,, Queen Mary's College*
74 Sialkot Murray College
75 Rawalpindi Gordon Mission College
76 Peshawar Edwards College
77 Srinagar Sri Pratap College
78 Jammu Prince of Wales College
79 Amritsar Khalsa College
80 Kapurthala Randhia College
81 Patiala Mohindra College
82 Delhi St. Srephen's College
,, Hindu College
103 Lyallpur Aaricultural College

ALLAHABAD UNIVERSITY

83 Mussoorie Woodstock College
,, St. George's College*
84 Almora Ramsay College
85 Naini Tal All Saints Diocesan College
,, Philander Smith College
16 Meerut College
87 Bareilly College
88 Aligarh M. A.—O. College
89 Agra College
,, St. John's College
,, St. Peter's College*
90 Cawnpore, Christ Church College
,, Agricultural College*
91 Lucknow Canning College
,, King George Medical Coll.
,, Reid Christian College
,, Isabella Thoburn College
,, La Martiniere*
92 ALLAHABAD, Muir Central College
,, Christian College
,, Higher Grade Training College
,, Univ. School of Law
,, Kayastha Pathsala
,, European Boys School
,, ,, Girls High School
93 Benares Central Hindu College
,, Queen's College
94 Gwalior Victoria College
95 Jaipur Maharaja's College
96 Ajmer Government College
,, Mayo College*
97 Jodhpur Jaswant College
98 Indore Holkar College
,, Canadian Mission College
,, Daly College*
99 Jubbulpore, Government College
100 Nagpur, Morris College
,, Hislop College
,, Victoria College of Science
,, Francis De Sales College*
101 Raipur, Rajkumar College*
102 Roorkee Thomason College

Colleges marked with asterisks (*) are not affiliated to University.

KEY TO MAP

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VOL. III **THE COLLEGIAN** No.

AND PROGRESS OF INDIA

CALCUTTA, TUESDAY, OCTOBER 15, 1912

The Collegian and Progress of India

With this number the Collegian begins its second year after a successful career. Being till today the unique educational fortnightly in India, the paper has all along regarded as one of its chief tasks to acquaint its readers with all newest improvements in educational matters and the progress of science and literature. We have decided to add another title to the journal, *viz.* "Progress of India," and we venture to hope that in keeping with this new title we shall be able to provide our readers with articles and contributions embodying the labours of workers in the field of original research in different department,—Literatures, Science, Indian Philosophy, Indian History.

* * *

Educational Progress in India

We are presenting our readers as a frontispiece to this issue the first of our Series of Educational Maps of India. The accompanying map contains the Civil Divisions of India only, the advancement of Education in each province being noted by different signs. Taking the '*School and College going population*' being that between ages 7 and 27, we arrive at approximately the following table in order:

Province	No. of pupils under instruction per 1000 of 'School and College going population'
Baroda	238
Bengal	107
Travancore	104
Cochin	102
Bombay	87
Coorg	86
Burma	81
Madras	70
United Provinces of Agra and Oudh ...	43
Assam	42
Punjab	38
North West Frontier Province ...	36
Bihar and Orissa	36
Central Provinces and Berar ...	36
Rajputna	*below* 30
Central India Agency	*below* 30
Nizam's Damnions	*below* 25
Kashmir	*below* 10

[N. B. Figures for Mysore and Ceylon not obtained]

In this map we have noted only the places where there is a college. The list of Colleges, also, is printed separately as a key to the Map. In subsequent numbers we propose to note the progress of education of each province, more particularly in detail viz. each district. Maps like these are altogether new in India and we hope the series will be acceptable to those who take interest in the Educational Progress of India. We propose to return to this subject in future issues.

* * *

Mr. T. Palit again

Mr. T. Palit has given over to the Calcutta University the remainder of his estate roughly valued at eight lakhs. This supplements his gift of seven lakhs and a half which we noted in these columns more than a month before. The whole amount is to be used up in the the founding of the University College of Science. We may safely call Mr. Palit the Carnegie of this part of India, as benefactions like this are uncommon in this country, and when we consider the fact that Mr. Palit has given away all that he had after making barely necessary provision for himself and his family we are prompted to think that Mr. Palit should rank among the great philanthropists of the world.

* * *

A commendable forward step in Education in Mysore

The recommendations of the Mysore Education Committee relating to the extension of primary education in Mysore are really commendable. Our esteemed contemporary "*The United India and Native States*" gives us a full account of the Education Committee's Report. We shall only deal with the resolutions regarding Primary Education.

The four resolutions relating to the extension of primary education recommend the allotment of 7 lakhs during the next five years and of 2·25 lakhs a year afterwards for establishing and maintaining 1000 new Elementary Schools and for the improvement of the 500 Primary Schools already in existence. The other recommendations under this head advocated the empoyment of trained men as inspecting officers, the deputation of the inspecting officer already employed to training classes to make themselves acquainted with the latest methods of teaching, the employment of trained teachers as Head-masters of Primary Schools and the steps to be taken for increasing the number of trained teachers. this last result to be attained by improving the existing Normal Schools and by establishing additional Normal Schools where necessary. The Order of Government of this part of the Commitee's recommendations makes it clear that the Government of His Highness are fully alive to the importance of the subject. A special grant of two lakhs has been provided in the current year's budget for the expansion of primary education and the proposals for employing trained teachers have the full concurrence of Government. With regard to the proposal to secure an adequate supply of trained teachers, Government remark that the opening of an English training class in the Mysore Normal School has been sanctioned from the current year and that the Inspector-General of Education would be requested to see that improvements are effected gradually on the lines suggested by the Committee. The order is satisfactory on the whole although we think it does not go far enough. We would have been much better pleased if a more liberal allotment had been made for the purpose of opening new Primary Schools in localities where these are wanted as well as for the improvement of the Primary Schools already in existence. We are nevertheless bound to acknowledge the sympathetic and liberal attitude of the Government with reference to the expansion of primary education in the State, not forgetting that the Government have other projects equally worthy and equally meriting sympathy and financial support.

* * *

Education of the Domiciled Community

The following communique has been issued by the Education Department : The recent conference on the education of the Domiciled Community held at Simla and presided over by Sir Harcourt Butler, expressed their opinion that the state of the poorer members of the Domiciled Community in Calcutta and Madras calls for epecially urgent attention. After consultation with the Local Governments concerned, the Government of India have made special recurring grants of Rs. 40,000 and Rs. 30,000 per anum to the Governments of Bengal and Madras respectively for extending education among the poorer classes of the Domiciled Community in those two cities.

* * *

Sad end of a sincere promoter of Education

Mr. Hari Das Kandelwall of Jubbulpore was brought by train from Puri in a state of collapse. It appears that he had gone there on a pilgrimage and owing to some eruptions on his body had bathed his body with kerosine oil. Some how or other his clothes caught fire and before aid could come he was badly burnt. On arrival at Calcutta he was taken to the residence of Sir Chandra Madhab Ghose where he died.

It will be remembered that Mr. Khandelwal donated a few months before his whole earning to the Indian Scientific and Industrial Association, for the promotion of Industrial Education.

* * *

Mr. T L. Vaswani M.A.

We are glad to note with satisfaction that Mr. T. L. Vaswani M.A., Professor of Dayaram Jethmal College, Karachi has been appointed Principal of the Dyal Sing College, Lahore. He delivered a learned

inaugural address at the Dyal Sing College, the substance of which we publish elsewhere.

* * *

Success of Indian Students abroad

It is gratifying to note the success of Indian students at the last I. C. S. Examination. Eight Indians are successful—three of them belonging to Bengal, one to Madras, one to Bombay, one to Punjab, one to the U. P., one to Ceylon. Their names are: Messrs B. K. Basu, S. N. Roy, B. R. Rau, Ram Chandra, S. S. Nehru, K. C. Sen, Y. A. Godbole and C. Rodrigo (Ceylon).

We are further glad to note the progress of some of the students of the Bengal National College who are studying at Harvard, the premier University in the United States of America. Mr. James H. Woods, Professor of Sanskrit Literature, Harvard Universiry, writes in a letter dated 18th August 1912 to a Professor of the Bengal National College, Calcutta:—

"* * * I may send a word of hearty approval with regard to the four students Mr. Sen-Gupta, Mr. Ray, Mr. Seth and Mr. Sarkar, who have been sent to Harvard University. . . . Their record in scholarship is even better than last year and the ideals and conduct are irreproachable."

* * *

Percival Memorial Calcutta

We are glad to announce that the total amount subscribed to the Percival Memorial Fund already exceeds Rs. 1700, the list being headed by Sir Ashutosh Mukerji with a donation of Rs. 250/-. We dare say our readers recollect that at a public meeting held on the 18th August last under the Presidency of Sir Ashutosh Mukerjee it was unanimously resolved to take steps to raise a memorial to Mr, H. M. Percival, late Professor of the Calcutta Presidency College. The form of the memorial has not yet been decided.

* * *

The Seva Sadan Poona

The work of the Poona branch of the Seva Sadan Society is satisfactorily progressing, as will be seen from the report of last year's work up to the end of August 1912. The principal activities of the branch run in the channels of educational and industrial education, instruction in hygiene, sanitation, first-aid and nursing, and, broadly, social and philanthropic work. The main feature of its educational activity is that it enables ladies, whose education may have suffered a break owing to their early marriage, to prosecute their studies further just in the same way in which the continuation classes or exetnsion lectures are useful in Western countries. So also ladies who had little or no schooling in their early life get by these classes a chance of beginning their studies afresh; thus a systematic attempt is made to avoid competition with local educational institutions for females by admitting only such ladies as would otherwise not go to these institutions and remain at home without any education. The work is conducted by Poona ladies and gentlemen under the leadership of Mrs. Ramabhai Ranade widow of the late Mr. Justice Ranade.

Proposed College for Berar

The Berar King Edward Memorial Committee, we are informed by our correspondent, met the other day under the chairmanship of the Commissioner, Mr. Standen, and decided to establish at Amraoti a first grade arts and science college for Berar, to be affiliated of course to the Allahabad University up to B.A., and B. Sc. There is to be the '*necessary minimum*' (what may this be ?) of the European supervisory and profesaorial element in the college staff. We learnt that there was some measure of opposition to the idea of a college when it was first mooted. But thanks to the efforts made by the hon. Mr. Mudholkar in its behalf and the countenance given to it by the provincial authorities, all hesitation was ultimatela overcome and we have to congratnlate the people of Berar on the increased facilities for higher education which they will have henceforth. Berar is an important part of the Central Provinces with distinctive characteristics of its own, and a separate college is but its due.

Marwari College in Calcutta

A very pleasant function took place at 134, Mechua Bazar Street, where Sir Ashutosh Mookerjee Vice-Chancellor of the Calcutta University laid the foundation stone of the New Marwari College.

The Marwaris have raised nine lakhs out of which two lakhs have been spent in purchasing land and two lakhs will be spent for building. One special feature of the college would be the imparting of commercial education.

Sir Ashutosh Mookerjee at the Calcutta City College

The annual prize giving of the City College was held on Tuseday afternoon the 8th instant at the College premises. The Hon. Sir Asutosh Mukherji, Vice-Chancellor of the Calcutta University presided and there was a large attendance.

Mr. Heramba Chundra Maitra, Principal of the College having presented the annual report and it having been accepted the President gave away the prizes, which consisted of gold and silver medals, and valuable books.

The President then delivered a lengthy address in the course of which he said that on an occasion like this the feeling which was uppermost in the minds of every friend of the Institution was to offer their congratulations to the authorities of the college on the striking success which the Institution had attained. In his case that feeling was considerably intensified owing to the fact that he did not come there as a stranger. He came there as an ex student and was proud of the Institution. When he entered that building his mind was carried back to the year 1884 when he used to come there daily to listen to the lectures

delivered by the great founder of that college, the late Mr. A. M. Bose.

In conclusion the speaker said that although this was a most promising institution, and although it gave all the indications of a vigorous manhood there were serious needs of the college which were to be made good. The college urgently required a building and a hostel. The Government had very generously offered a lakh of rupees for a hostel, provided that the college authorities secured a suitable site for the purpose. In this connection he thanked the Raja of Pithapuram for his promise to make a donation of Rs. 30,000. The speaker after making a pathetic appeal to the public for funds promised to contribute Rs. 500

With a vote of thanks to the chair the meeting separated.

* * *

Baroda Libraries

Mr. Borden, Director of state libraries in Baroda, his issued a report on the general movement towards library efficiency in the State. The policy is apparently modelled on the American suggestions. The Baroda Government offered to bear one-third or more of the expenses of founding and maintaining all libraries in the State provided such libraries were opened free to all classes and it withdrew all support from the libraries which refused to open to such free use. Since then libraries and reading rooms have increased from 251 to 373 of which only about 20 expect to continue without State help. It is hoped to make the central library a reference library of two hundred thousand volumes open to all and to establish a reference library of 20,000 to 5,000 volumes in every taluka town and other village extensions in time.

* * *

Government Encouragement of Original Research

We are informed that the Director of Public Instruction Bengal, has purchased 51 copies of Prof. Radhakumud Mukerjee's "A History of Indian Shipping and Maritime Activity from the Earliest Times" (Longmans, 7s. 6d.). The patronage is well deserved.

* * *

A scheme for fostering Vernacular Education

Professor B. K. Sarkar, of the National Council of Education Bengal has in his pamphlet "The man of letters" very forcibly puts forth the need of fostering Vernacular Literature; the Professor Says—

In the interests of the full development of the national languages and literature of India it is necessary that the lives of the inhabitants of its various provinces should be eventful and as full of diversities and varieties of functions as possible. It is necessary that Bengal and Maharastra, the Punjab and Madras should know one another in all particulars as minutely as possible. We have to help forward the attempts of the people of each province to settle in other provinces and to create opportunities and fields of work there. Arrangements have to be made for the study of the several vernaculars at school. We have to try to make at least the three Indian vernaculars, *viz*, Bengali, Marhatti, and Tamil, subjects for higher education in every part of India. In this way we have to organise closer intimacy and mutual intercourse between the several provinces.

The *Leader* of Allahabad while commenting on Prof. Sarkar's methods says:—

Prof. Sarkar holds that literature in common with everything else requires *protection* in its infancy. He says that our literature is still in its non-age and it is due to this backwardness and poverty of our language and literature that it has been only accorded a position of second language in the Government scheme of higher education and has not been entitled to the dignity of the first language. But this can be achieved if learned bodies like the Bangiya Sahitya Parishad of Calcutta and Nagri Pracharini Sabha of Benares undertake to employ some of the best students of our country to work together for the development of our literature under the guidance and control of such literary men as Dr. Seal of Bengal and Dr. Jha of our provinces. But to secure the services of these students it is essentially necessary that they should be free from all pecuniary wants. The Bangiya Sahitya Parishad of Bengal took up the suggestion of Prof. Sarkar and on the occasion of the fiftie-h birth-day anniversary of Babu Rabindra Nath Tagore, the greatest living poet of Bengal, have collected a decent fund, the proceeds of which will be utilised in the manner indicated above. The Nagri Pracharini Sabha of Benares can do the same. The Sabha can raise funds on similar occasions and spend them likewise.

* * *

School for Indian Nurses, Sir Chinubhai Madhavlal's gift

Sir Chinubhai Madhavlal, the millionaire of Ahmedabad, has endowed Rs. 1,25,000 for the establishment of the school for training Indian Nurses and Midwives to be started in connection with the Victoria Jubilee. Hospital at Ahmedabad. The Government will erect the necessary buildings for the purpose at a cost of thirty thousand rupees and will main-tain the school, the first of its kind outside Bom-bay. The school will be called "Edward VII. Training Institution for Nurses and Midwives."

* * *

School of Tropical Medicine, Calcutta

The School of Tropical Medicine in Calcutta, just sanctioned by the Secretary of State, to be ultimately the finest school of its kind in the world. In no other city in the tropics aae such variety of diseases treases as in the hospitals in Calcutta, and that the opportunities for resarch work are great. In the school tsere will be a course which will include lectures in tropical medicine, pathology and biology with speciol reference to mosquitoes and other disease-carrying insects. Lectures will be given for the the present by the professors of the Medical College, but later it is expected that there will be a special staff. Provision is to be made for eight research workers and facilities will be given not only to members of the Indian Medical Servive but to others who wish to do research work. The school is expected to take 18 months to build and equip, but it is hoped to start first teaching course in a temporary building next cold weather.

The Universities.

CALCUTTA UNIVERSITY.

M. A. Results 1912

The undermentioned candidates are declared to have passed the M. A. Examination, 1912 :— (In order of merit).

SANSKRIT, GROUP A.

CLASS II : 1. Sengupta, Haripada (Non-Collegiate Student). 2. Bhattacharyya, Surendranath, 3. Thakur Amareswar, 4. Chattopaphyay, Jotindramohan, 5. Sengupta, Ashutosh, 6. Basu, Bireswar, 7. Sarayoo Jha, (University Students).

CLASS III : 1. Sarma, Brajadayal, 2. Sarma, Lakshmi nath, Non-Collegiate Student.

SANSKRIT, GROUP B.

CLASS III : Bandyopadhyay, Sureshchandra, University Student.

SANSKRIT, GROUP D.

CLASS I : Mukhopadhyay, Nalinimohan, Non-Collegiate Student.

PALI, GROUP A.

CLASS I : Mitra, Sailendranath, University Student.

CLASS II : Mallik, Mukundabihari, University Student.

COMPARATIVE PHILOLOGY.

CLASS II : Muhammud Shahidullah University Student.

MENTAL AND MORAL PHILOSOPHY.

CLASS I : 1. Sarkar, Ambujaksha, University Student. 2. Das-gupta, Jitendranath, Scottish Churches College.

CLASS II : 1 Sengupta, Indubhushan Non-Collegiate Student. 2 Goswami, Krishnakamal, 3 Ray Anilbaran, Scottish Churches College. 4 Ray, Manindranath University Student. 5 Basu, Manmathanath, 6 Ray Judunath, Scottish Churches College. 7 Basu, Premsudar Non-Collegiate Student. 8 Gohain Premadhar, 9 Goswami Krishnasasi, 10 Chattopadhyay, Jitendranath, Scottish Churches College.

CLASS III : 1 Ray, Jitendranath, 2 Ghosh, Ishan Chandra, Non-Collegiate Student. 3 Kaisari Sing Ray, Scottish Churches College. 4 Chakrabarti, Kailashchandra, Non-Collegiate Student. 5 Datta, Subodhchandra, Scottish Churches College. 6 Ghosh, Lalmohan, 7 Ghosh, Khagendranath, 8 Sinha, Nitaisundar, 9 Basu, Nagendranath, 10 Datta, Bidhubhushan, Non-Collegiate Students. 11 Mitra, Gopendrakrishna, University Student. 12 Das, Brahmapada, 13 Pal Rameschandra, Non-Collegiate Student.

The Calcutta University has bought 80 copies of "Megasthenes's Account of India by Babu Rajani Kanta Sen, Professor of the Ananda Mohan College of Mymensingh.

With effect from the examination in 1913, Gauhati will be a centre for holding the theoretical as well as practical examinations in Science subjects at the B. A. and B.Sc. Examinations.

Hon'ble the Vice-Chancellor and the Syndicate have been graciously pleased to grant the petition, submitted by the Old Regulation B. L. candidates. Instead of going again through a two years' course (Intermediate and Final) according to the New Regulations, the said candidates will have to attend again the two lectures (Intermediate and Final) morning and evening, on payment of a single fee (Rs. 6) only, from this month to the end of the present session, (i. e., less than a year's course). They will, therefore, be entitled to appear in the Intermediate and Final B. L. Examinations to be held in July 1913, and on subsequent dates.

MADRAS UNIVERSITY.

B. A. DEGREE EXAMINATION GROUPS (II) AND (III) (UNDER THE NEW REGULATIONS).

In modification of the notification, dated 16th April 1912, candidates selecting groups (ii) or (iii) for the B. A. Degree Examination, 1913, *under the New Regulations* will be required to sit at the following centres :—

Madras—Candidates appearing from Government College Rajahmundry, Maharaja's College, Vizianagram, and all Colleges in Madras.

Bangalore—Central College, Bangalore.

Trichinopoly—St. Joseph's College and S. P. G. College, Trichinopoly.

Trivandrum—Maharaja's College, Trivandrum.

With reference to the University lectures under Regulation 394 sanctioned by the Senate for the academic year 1912-13, it is hereby notified that the course of 20 lectures on "The History of English Sounds from the end of the Middle English period to the present day" to be delivered by Mr. Mark Hunter, M.A., and the the course of 30 lectures (with 20 hours' practical) on "Introduction to Animual Embryology" to be delivered by Mr. K. Ramunni Menon, M.A., will be delivered at the Presidency College during the second term of the year commencing on Tuesday, the 1st October, 1912.

The days and hours for the delivery of each lecture of the former course will be Tuesdays, 3 to 4 P.M., and Thursdays, 2 to 3 P.M., and those of the latter course will be Tusdays, 11 A.M., to 1 P.M., and 2 to 3 P.M., and Fridays, 2 to 4 P.M.

The lectures will be open to any student, who is taking an Honours Course in any College affiliated to the University,

on the recommendation of his College authorities. No fee will be charged for attending the course of lectures, but a student shall not attend the couse till he has paid the usual fee to his College for the term.

The lectures will also be open to graduates of the University, who wish to engage in post-graduate study and research on payment to the University of Rs. 50 per course per term, and with the sanction of the lecturer appointed.

Note.—Post-graduate students, who are members of a College will not be required to pay this fee.

BOMBAY UNIVERSITY.

Improvement schemes. Disposal of Recurring Grant.

An interesting report has been prepared by a Committee of the Bombay University Syndicate regarding the disposal of the recurring grant of Rs. 50,000 given by Government. The Committee discussed the prospect of future work of the University referring, for instance, to the approaching desirability of establishing lectureships on subjects connected with commerce and architecture and branches of Oriental study, such as Sanskrit, Zend, Pahlavi and Indian Archæology. They remark that it is necessary also to create a research fund from which the University might give help to those who are engaged in research work but cannot carry it on without assistance. The most important part of the scheme is the reorganisation of the University Library, which is declared now to be practically useless as an aid to higher studies now under consideration. It requires enlargement with an increased annual allotment for purchase and a trained Librarian is needed for which purpose the Committee recommend sending a young man to Europe or America for special training. The Committee summarise other recommendations regarding the recurring grant as follows :—The cost of bringing out annually a lecturer or lecturers on some of the post-graduate courses with or without co-operation with the other Indian Universities, to organise inter-collegiate lectures and to engage an expert adviser for one year at a cost of Rs. 20,000. The Committee recommend the allotment of half a lakh of rupees as the initial cost of refitting tbe library.

PUNJAB UNIVERSITY.

Examination Results.

At the First Examination in Law held in 1912, 54 candidates have passed. Mohamed Bakhtyar a private student heads the list of successful candidates. At the LL.B. Examination 1912, 77 students have passed of whom 19 are placed in First Division and 58 in the Second Division. Jagannath Agarwala from Law College has stood first. Five candidates passed the special tests in Law, 1912.

Language Examination Results.

Proficiency in Sanskrit—I. 11 ; II. 45 ; III. 41. *High Proficiency* in Sanskrit (*Visharada*) I 1 ; II 12 ; III 19. *Honours in Sanskrit* (Shastri)—II. 4 ; III. 14. *Proficiency in Urdu*—Marie Josephine Vanhaute alias M. Venardine. *High Prof. in Urdu*—Sardar Ahmed, Abdul Hamid, Ahmad Hossain. *Proficiency in Hindi*—Surat Ram Sharma. *High Prof. in Hindi*—Gauri Sankar Sharma. *High Proficiency in Pashto*—Karim Baksh. *Punjabi* :—Budhiman—7 ; Vidwan—12, Gyani—9.

I. A. Examination, 1912. (Tabulated Results.)

We give below the Tabulated List of the candidates that passed the Intermediate Examination in Arts, 1912. The names of the Colleges are arranged in order of the number of points gained by each reckoning 3 points for each first division, 2 for each second division, 1 for each third division.

COLLEGES.	First	Second	Third	Total.
D. A. V. College, Lahore ...	16	81	24	121
Dyal Singh College ,, ...	2	34	23	59
Forman Christian College ,, ...	5	27	7	39
Mohendra College, Patiala ...	4	23	11	38
Government College, Lahore ...	5	14	10	29
Khalsa College, Amritsar ...	2	20	7	29
St. Stephen's College, Delhi ...	2	21	1	24
Islamia College, Lahore ...	1	12	10	23
Ranadhir College, Kapurtala ...	1	11	6	18
Murray College, Sialkot ...	1	10	5	16
Sri Pratap College, Srinagar ...	1	6	6	13
Edwardes College, Peshawar ...	0	7	5	12
Gordon Mission College, Rawalpindi	1	5	4	10
Sadiq Dane College, Bahawalpur ...	1	3	4	8
Prince of Wales College, Jammu ...	1	2	6	9
Hindu College, Delhi ..	0	5	2	7
Oriental College, Lahore ...	0	0	1	1

ALLAHABAD UNIVERSITY.

Exam. Results.

The following candidates have passed the Preliminary Scientific Examination for Degree of Bachelor of Medicine and Bachelor of Surgery held in 1912:—Brij Ratan Jain, Ganga Charan Greig, Kailash Chandra Waghry, Kripa Sankar Dikhsit, Krishna Das Mukerji, Shiva Narain Govill, (Agra College). Modhu Prosad Bhargava, Shivaraj Narayan Suksena, Ratish Chandra Banerji, (St. John's College, Agra). Nan Nihal Singh Bhargava, (Muir Central College). Bireshwar Ghosh, Birshasu Nath Khattri, Chatra Puri Goswami, Chowdhari Gopalnath Singh, Mohamed Aon Jafarey, Niraj Nath Mukerji, Pyare Lal Dube, Yeshwant Govind Joshi, Amrita Lal Upadhya, Jogadish Prosad Varma, (Christian College, Allahabad).

THE COLLEGES AND SCHOOLS.

Presidency College, Calcutta.

The second sitting of the Philosophical Club, Presidency College came off on Friday, the 20th September, under the presidency of Prof. Dr. Probhudatta Shastri. Babu Kamal Ch. Chandra read a paper on "Immortality of the Soul" in which he very lucidly traced the growth of the idea of immortality in different nations and then showed that the idea reached its logical culmination in the Vedanta Philosophy of India. He also insisted on the superiority of Indian philosophy as to the speculative treatment of the subject. Then, Professor K. N. Mitra being requested by the president, offered some scientific objection to the idea of immortality and laid stress on the fact of its being a matter of faith rather than a matter of knowledge. Dr. Shastri in his presidental address acknowledged the cogency of Professor Mitra's arguments but solved the problem by showing that philosophy far transcends the sphere of science. He also met the objections of the other opponents very ably by citing authorities in his support from the philosophies of East and West

Ripon College, Calcutta.

A contribution to the Ripon College Building Fund of Rs. 15,000 was made by Raja Kristo Das Law, Maharaj Kumar Rishicase Law and Babus Chandi Charan Law and Ambika Charan Law.

Cotton College, Gauhati.

Sir Archdale Earle the Chief Commissioner presided over a conference to consider the step to be taken to improve the status of the Cotton College. His methods mark a new departure from the time-honoured policy of high Government officials. In the conference the non-officials were in a majority, and their demands received a most attentive and careful hearing from the Hon'ble the Chief Commissioner.

The College has sustained an irreparable loss by the departure of Professor Vanamali Vedantatirtha to Kashmir as the Principal of Srinagar College. The students, the members of the Bangiya Sahitya Parisad of which he was the President, and his Colleagues the Professors, arranged separate tea-parties and meetings to bid good-bye to Vanamali Babu. The eminent success of each of these functions unmistakably indicates the great popularity of the distinguished Professor.

B. B. College Muzaffarpur.

The Maharaja of Darbhanga visited the Bhumihar Brahman College. An address of welcome was presented by the trustees, members, managing committee, staff and students. Babu Jogeswarprasad Sinha, B.L., Secretary of the College, read the address, expressing gratefulness for the Maharaja's munificent contribution of Rs. 500 monthly and eulogising his services to the cause of education and the Hindu University movement. The Maharaja expressed great satisfaction with the progress of the College. His Highness wished the college to be a well-equipped first grade college.

Madras Govt. and the Colleges

The Madras Government have sanctioned the payment to the institutions mentioned below of special grants not exceeding the amounts specified in each case or one-half of the actual cost of the articles, which ever may be less:—Madras Christian College, Rs. 12,581; St. Aloysius College, Mangalore, Rs. 7,068; St. Joseph's College, Trichinopoly, Rs. 1,025; Pachaiyappa's College, Madras, Rs. 9,130; Maharajah's College, Vizianagram, Rs. 4,250; Mrs. A. V. N. College, Vizagapatam Rs. 5,151; Kallikota College, Berhampur, Rs. 2,012; C. M. S. College, Tinnevelly Rs. 953, and S. P. G., College, Trichinopoly Rs. 141.

Government College Mangalore College Day.

The College day came off an the 21st September, 1912. Mr. H. O. D. Harding, I. C. S., District and Sessions Judge, Salem, took the chair. The Principal after expressing regret at the constant changes of staff in Government institutions and at the loss by transfer of two members of the College Staff during the year, mentioned that the strength of the College Classes had increased by 14. The School average in the School leaving Examination has been below the Presidency average in nothing and had exceeded that average by percentages varying from nine to twenty-one in English, Mathematics, History and Physics. In the Intermediate Examination, 11 had passed out of 22 sent up, 4 in the First Class. A much needed laboratory had been completed and gas laid on. Electricity would be supplied before the end of the year. He then proceeded to urge on parents the advisability of making use of the Commercial Classes. They were, he said, at present so small that it was doubtful whether it was worth while to continue them. The two boys who had attended last year had both got employment already. B.A.'s were now as plentiful as black-berries on an English hedge, but boys with good leaving Certificates in commercial subjects were rare.

The President, after giving away the prizes to the various prize-winners, addressed the audience and in the course of his remarks he observed that while, on the one hand, the function of education was to develop the mind and to make men wise and sensible, it was also its function to open suitable careers for young men. People, as soon as they finish their scholastic career flocked into the Government service thinking that they would have a prosperous career only there.

But he was of opinion that young men could find a prosperous and profitable career in commercial life as well and that it was as honorable as any other profession. Hence he wished that a good many would seriously take to the study of commercial subjects and profit thereby.

To him life appeared to have a nobler purpose than the mere passing of examinations or winning of prizes. Our life was to be so utilised as to leave the world something better than we found it. The knowledge of one man was to be the common property of all and the best means of effecting this was by the interchange of our thoughts and ideas with those of others. It was this that the western nations were trying to accomplish by the spread of education. He welcomed the ladies present as they were a great factor in moulding a nation through their family influence and he wished that ladies would evince a greater interest in educational matters thus making the way easy for the building up of Indian nationality. He was gratified to note that Mangalore had already made headway in the matter of female education. He next referred to the supreme importance of a common language in the building up of a nation. Indian Nationality could never be a reality as long as the people of one district could not understand the language of another. The present facilities of transport, railways and acroplanes made a common language a crying need. Hence as Mr. Roy had said, it appeared that only through a knowledge of English, could the idea of Indian nationality materialise. When space was annihilated there would arise a common language, free intercourse and wider sympathy. Hence, he eagerly looked forward to the day when aeroplanes would be largely used, when India would become an English speaking country, when people would abandon all their recial prejudices and work towards the common goal of Universal brotherhood.

St. Aloysius College, Mangalore.

A social gathering of ex-Aloysians was held on the 23rd September, in honor of the Rector's Day. About 200 old students and their wives both Hindoos and Christians attended. A few well-wishers of the College were invited and attended to grace the occasion. The Hall of the College was tastefully decorated and illuminated and seats arranged artistically among ferns and crotons. Doctor Abnoxius Abreo of Fr. Muller's Hospital proposed the toast of Fr. Rector in a beautiful little speech to which Mr. M. R. Roy, Bar-at-law, added some few words on behalf of the non-Christian old students. The College-Hostel string band gave some beautiful tunes. Some songs were sung by Christian ladies and gentlemen. Amongst them Mrs. Mehta, one of the guests, kept the audience spell bound by her beautiful solos. Refreshments and drinks were served at intervals. The gathering dispersed after the farce in 4 acts acted by the College boys trained by Revd. Fr. Ch. Ghezzi s. j. Principal of the College. Revd. Fr. G. Saldanha s. j. Dr. L. P. Fernandes of Fr., Muller's Hospital. Dr. Abundias Abreo, Messrs Jeffri Saldanha, N. S. Goelho, Theobolo Saldanha, Pascal Albuerque, Pascal D' Sousa B. A. B. L. and J. S. V. Nazareth spared no pains to make the occasion a brilliant success.

Noble College, Masulipatam.

The prize distribution of the Noble College, Masulipatam. and the opening ceremony of the new Clark Hostel came off on the 12th September with the Hon. Mr. Carr, I. C. S. Member of the Board of Revenue in the chair. It was in the year 1908 that His Excellency, Sir Arthur Lawley, the Governor of Madras laid the foundation stone of the Hostel. Towards the close of last June the building operations were completed. The building presented a gay and animated scene.

The business of the evening opened with prayer. The Principal then read his annual report on the working of the College. Last year was a year of brilliant achievements and distinctions to the College. It was gratifying that two students secured first classes in History in the last B. A. degree examinations, not to speak of several second classes. These results showed the efficiency of the college staff and their indefatigable labour for the cause of the students. On the conclusion of the annual report, the Chairman rose amidst cheers and in the course of his lucid and eloquent speech he observed that hostels formed an intergal part of Colleges and it was only in these nursaries that wholesome and lofty principles would be inculcated, that stern moral doctrines would be indelibly engrafted on the plastic and pliant brains of the young and, in short, their character would be moulded and shaped by these benevolent and humane institutions. Nothing short of ennobling the mind and launching the young upon the momentous voyage of life, providing at the same time all the contrivances to pilot and steer their course through the grim and darksome waters of turbulent life, could be performed by these hostels. Further he congratulated the two first class students in the B. A. degree examination upon their rare and distinguished honour and he wound up his remarks with the hope and wish that the institution would nurse brilliant specimens of moral character and rear great intellects.

Prizes were then distributed to all the deserving students of the College by Mrs. H. L. Braidwood. In proposing a hearty vote of thanks to the chair Rev. G. R. Ennus, M.A., said that the College should feel proud of the distinguished visitors of the evening prominent among whom were the Collector and the District Judge. The animating presence of the high Government officials would impart a healthy tone to the organism of the College.

Zamorin's College, Calicut.

The distribution of prizes to the students of the Zamorin's College took place at the College premises, Mr. C. G. Mackay, M.A., I.C.S., presided over the function. Mr. F. Norton Fagge presented a report of real progress during the last college year. It is gratifying to note that under the new Principal the college grows fast in strength as well as efficiency and tries to keep abreast of the times. The announcement that the Science Department is equipped with up-to-date accessories and that the College Department is to be provided with better accommodation will be received with genuine satisfaction. The report showed that Mr. Fagge has the college interests always at heart and we are certain that the college is bound to prosper under the guidance of such an enthusiastic Principal. Mr. Mackay delivered a very instructive address which only a man of his learning and experience could do. In the course of his address Mr. Mackay gave very valuable suggestions for both teachers and the taught, which they would do well, always to remember. Education aimed at producing good men, and good citizens and this aim ought not to be subordinated to making it a means for securing office or livelihood in after life. Mr. Mackay's remarks on the scope of higher education and specialization of study are sure to be of use to the many young men in the college and to the professors whose happy lot it is to guide them. Mrs. Ferguson gave away the prizes to the winners. The Chairman and Mrs. Ferguson were then garlanded and Mr. Cheriattan Rajah, a member of the Board of Management thanked those present.

Jaffna College Brotherhood.

The second annual function of this society came off on Saturday evening, the 21st Sept. From 5—5-30 p.m. the College students who do not belong to this society were received and refreshments were served. Then began the literary part of the programme when many of those invited were present at the Otley Hall. Rev. G. G. Brown, the Principal, presided. Following the Report read by the Secretary came a programme, such as it is usual to have in the regular meetings.

In addition a short and interesting farce was acted. The meeting came to a close at 8 p. m. Then the guests were invited to the Principal's Bungalow where arrangements were made to entertain them at a regular rice and curry dinner. The following toasts were proposed: The King, Dr. York; Faculty, A. C. Sundrampillai, responded to by Rev. G. G. Brown; Old Members of the Society, K. Murugasu, responded to by D. S. Sanders; Sister Societies, S. W. Charles, responded to by A. Brodie; Guests, K. K. Vaityalinggam, responded to by Dr. Curtis.

The Ceylon Educational Association.

The Seventeenth Annual Meeting of the Ceylon Educational Association was held on Saturday the 21st September, at the Old Wesley College Hall, Colombo Among the resolution moved at the meeting are (*a*) That, while generally approving of the establishment of a University College connected with an English University, this Association is of opinion that it would be fatal to the best interests of higher education in the Colony to make such education a Government Monopoly by establishing a University College under the restrictions proposed by the Education Committee (*b*) That while this Association is not opposed to the idea by the establishment of Post Graduate Scholarships to be competed for by students of the University College, it strongly deprecates the abolition of the present Intermediate Scholarships, and considers that it still should be possible for students to enter for these Scholarships from the Secondary Schools.

Gujrat College, Ahmedabad.

Pending the receipt of the orders of the Government of India and the Secretary of State for India. His Excellency the Governor in Council is pleased to make the following appointments in the Gujrat College Ahmedabad, with effect from 16th July, 1912:— Rev. W. G. Robertson, B.D, to be Principal and Professor of English and Logic. Mr. Anandashankar Bapubhai Dhruva to be Professor of Sanskrit. Mr. Maneckshah Sorabshah Commissariat to be Professor of History and Political Economy. Mr. Virmitra Bhimrao Divatia to be Professor of Science. Mr. Jethalal Swaminarayan to be Professor of Mathematics. Monsieur P. L. Charalier to be Professor of French. Mr. Nadirsha Dorabji Minocher Homji to be lecturer in Persian. Mr. Pherojshah Bejanji Vachha to be Assistant Professor of Logic and English.

Dayal Singh College, Lahore.

PROF. T. L. VASWANI while taking his new office as the Principal of the Dayal Singh College gave an inaugural address on the "COLLEGE IDEAL." Dewan Bahadur Dewan Narendra Nath, M. A. Commissioner took the chair.

Principal Vaswani paid a high tribute to the founder of the College, Sardar Dyal Singh; the late Sardar's munificient trust for the College was characterised by the Lecturer as a sublime act of self-consecration to the social good. The late Sardar was a great man at once because he had wide thoughts and because he had much feeling for the rest of the world. He felt for his people. He wished to develop the soul of his people. He was convinced that their could be no development of the soul of a people without the equipment of great ideas and with a largeness of intellectual vision he grasped the truth that education

was the lever with which he was to lift the people. The College which bore his name, was meant to be more than a School of knowledge. It was a School of life and character. It was meant to be an interpreter of two ideal values on which society ultimately rested—Self culture and Self consecration. The Lecturer developed the significance of these values of thought and life.

Speaking of self culture, Principal Vaswani asked the students to learn to be reflective. The college was in the heart of a great city and it was there to satisfy the intellectual demands of the modern life. Students were to learn to be reflective in the formative period of the College life, or they could not pull the car of social reform which was at standstill.

Proceeding, Principal Vaswani indicated the value of the studies at the College. Literature would broaden their sympathies and bring them in contact with the type of culture of other races,—it would introduce them to the beautiful and good. History would enable them to live again with the real 'supermen' like Socrates; Science would introduce them to real studies and give them an idea of the world as it actually was, and Philosophy would contribute to the great idealisation of their life.

The speaker went on to refer to the tutorial system as an important feature of the Dyal Singh College. It brought the student in personal contact with the teacher. College education could not yield its rich results unless it gave the students the shock of a new experience and this new experience was impossible without personal fellowship with teachers. Character calls forth character said Goethe, and personal communion of mind with mind was necessary for the progress of students. Another important feature of the College was that it combined University education with religious instruction. Education to touch the soul of the people must rest on a religious basis only so could the College become a sanctuary of the mind. All true education was to start from a definite spiritual theory of life and the lecturer had the conviction that the death of the theistic faith would be the funeral pyre of India. Behind economics was character and behind character was the inner force of soul-life, and India could not be great unless leaders of Indian life were animated by the faith that in God we live and move and have our being. There was an epidemic of scepticisim among a large section of educated: and if education was to be a constructive force it must be reverent of the realities of Religion. Principal Vaswani next developed the idea of social consecration. In conclusion he observed that it was in the spirit of self consecration and with this apprehension that education was the service of the spirit that he and his honoured colleagues fain would work at the College. Each one was to play his providential part in stepping the future of the great institution. The Lecturer called each youngman to do his duty—to feel cultural inspiration of the College, to pour the oil of sympathy and love upon the troubled waters of religious conflicts in the province, to secure the larger vision of life and so take up the challenge of the age—an age critical of the very foundations of thought and life. Then might be realised the dream which he and others dreamt—the dream of a day when the Dyal Singh College would be a lifting power in the Land and many from the East and many from the West would meet together within the hallowed walls of the great Institution and offer their intellectual and moral gifts for the help and healing of the motley millions of the Mother-Land.

Christian College Allahabad.

A meeting of the staff, students and old boys of the Allahabad Christian College was held on September 23, with the Rev. Dr. J. J. Lucas in the chair, to consider the best means of honouring the memory of the late Dr. Ewing. The following resolutions were unanimously passed :—

1. That the staff, students and old boys of the Allahabad Christian College, in meeting assembled, place on record their sense of deep and abiding sorrow at the demise of their beloved Principal, the Rev. A. H. Ewing, M.A., PH.D., D.D., who departed this life on the 13th September last at the age of 47 years and 10 months.

2. That the meeting conveys to Mrs. Ewing its respectful sympathy in her bereavement, which it shares with her, and prays to the Almighty Father to grant her His consolations in this great trial.

3. That the meeting places on record its feeling that the name of the late Dr. Ewing be permanently associated with the institution of which he was the head, and of whose labours it is a monument, and that with a view to this end it respectfully urges on the Board of Directors of the College through the acting Principal, to change its name to Ewing Christian College, Allahabad.

4. That the meeting considers it highly desirable that a suitable memorial be erected to the late Dr. Ewing, and that it appeals to the staff, the students and the old boys to volunteer subscriptions to the end.

5. That a committee composed of Professors Das and Weld and Messrs. N. P. Upadhyaya, M. A. Wadood, R. N. Vasu, M. P. Sinha, V. Seetal, D. L. Karan, G. P. Dhawan, S. Z. Ahsan, Mustafa Siddiqi, Jugal Behari Lal and B. B. Upadhyaya, with Dr. Edwards as chairman and Prof. Mitra as secretary and treasurer, be formed with power to add to their number to collect subscriptions and do all work necessary to give effect to resolution no. 4.

6. That copies of the foregoing resolutions be forwarded to Mrs. Ewing, the acting Principal and the chairman of the board of Directors of the College.

Agra College. Mr. Wodehouse who was suffering from Typhoid fever for the last five weeks passed away on the 21st September at 6 a.m. A feeling of seriousness was prevailing over the whole college. After the usual prayer Prof. T. F. O' Donnell announced the death and the college was closed for one day in honour of the deceased. All calmness was prevailing in the college and the boarding houses. It seemed as if no one was living there. After 11 O' clock the students were allowed to see the dead body, which was lying in state in a room. It seemed as if "he is not dead, he sleepeth." Two wreaths were presented by the students and one by the college staff. At 5-30 p. m. the funeral procession took place in Military honours, because the deceased had a rank in the volunteer corps. Nearly four hundred students in college headdress, the whole staff of Agra College and St. John's College were with the procession. The burial service was beyond all words solemn. The deceased came in India in 1910 as a professor of history in Agra College. He was a young and energetic man, a very good sportsman, very popular amongst the students. May God bless his soul !

Queen's College Benares On the 19th September there was a large gathering in the Queen's College Hall, to present addresses to Babu Abhaya Charan Sanyal and Mahamahopadhyaya Pundit Keshava Shastri, two professors of the College on their retirement after long and distinguished terms of service. Among the large audience were to be seen Raja Munshi Madho Lal, C.S.I., Pundit Rama Shankar Misra Dr. L. M. Sen, B. Banerji and I. S. Roy, Messrs. C. C. Biswas, Shyam Lal, Sitaram, S. C. S. Roy, Tara Prosad, N.C. Gupta, K.N. Ghosh, Rabinandan Prasad, L.K. Pandey and several others besides the members of the staff and students of the College. The ability and long services of the retired professors, their amiable disposition and popularity among students were eulogised in the addresses, which after they had been read by senior students, were presented to the professors. They were garlanded and they gave replies in English and Sanskrit, in which languages the separate addresses had been presented. Dr. Venis, the Principal, spoke in praise of the retiring colleagues and expressed regret at his having been deprived of their valuable services. A portrait of Professor Sanyal was unvailed by Dr. Venis. Professor Sanyal in his reply thanked his colleagues for the unique honour they had done him by presenting his portrait to the College which possessed the likenesses of two of its illustrious Principals, Dr. J. R. Ballantyne and Mr. R. T. H. Griffith, whose names would long be remembered in connection with the College.

TECHNICAL EDUCATION

Sir George Clarke on Art Education. H. E. the Governor distributed prizes to successful students at Sir J. J. School of Arts on the 17th September.

After Mr. Burns, the Principal of the School, read his reports, His Excellency delivered an interesting speech in the course of which he said: The relation of the Government to education are subjects of frequent discussion. In most countries art education present some special difficulties of its own, and in England there has recently been a warm controversy on the question whether State aided Art Schools are doing any real good or not. What Art Schools in Great Britain can fairly claim is that they have raised the standard of public taste and the general average of production. "Of indigenous art of India," His Excellency said, "we are told it would be destroyed with certainty if ever the machine dominates the industries of the country." It seemed to him this was only a half truth. The function of the machine is to multiply and to cheapen production. There is no reason why it should be permitted to reproduction. There is no reason why it should be permitted to reproduce bad art, and if it is uses to render good art available to many whether in pictorial form or in textile designs or for decorative purchases, the general average of artistic taste must surely be raised.

With regard to the other side His Excellency said : The machine inexorably tended to displace handicraftman. Hereditary skill which evoked an execution of objects of art is thus lost and art of workman who find pleasure as well as livelihood in his labour may become comparatively rare. There will always, however, be art work in which the machine cannot compete with the skilled hand inspired by inherited artistic sense.

Regarding the ancient crafts in India, His Excellency said they were intimately connected with the ancient religion and closely interwoven with the life of their peoples. The wonderful social ability of India has preserved them with little change to this day. Contact with what is prevalent in recent times has not been beneficial to the ancient art of India.

Their Excellencies at the Agricultural College Bombay. There was a large gathering to meet His Excellency the Governor and Lady Clarke when they revisited the Agricultural College on 23rd September in connection with the third annual meeting of the Deccan Agricultural Association. Rao Bahadur R. P. Godbole read a report which dealt with the work accomplished and the progress made

during the year. Its adoption was then proposed and carried unanimously after which H. E. the Governor addressed those present.

New Pasteur Institute at Maymyo

The work in connection with the New Pasteur Institute at Maymyo, towards which the public subscribed close on two lakhs of rupees three or four years ago is to be started shortly. There is to be an administration 'pucca' building 136 feet by 56 feet and a laboratory, operating rooms, inoculation room, Director's bungalows, incubator rooms, dispensary, rabbit house and other necessary rooms. All building will be lighted with petrol gas and fitted and furnished on the most modern type.

Bengal Veterinary College.

The following is the return of cases treated as in and out patients at the Bengal Veterinary College Hospital during the month of August 1912 :—Horses and Ponies Private—176, under the Cruelty to Animals Act 12. Cattle, private—198, under the Cruelty to Animals Act 6, Dogs and other Small Animals 155. The particulars regarding prosecution and results under the Prevention of Cruelty to Animals Act in the Calcutta Police Court, Lall Bazar, during the month under report are given below :—Number fined—1270, discharged, 32, warned and discarged, 44, struck off, 188, sent to Belgachia infirmary, 16, adjourned, 145 Total number of prosecution 1695.

Punjab Agricultural College.

It has been decided by the Punjab Government to inaugurate a class from October 1st next, for a vernacular course at the Punjab Agricultural College, Lyallpur. The present scientific courses at the College do not provide for simple demonstrative teaching such as would benfit practical farmers, and the addition of the new vernacular course to the curriculum will, therefore, provide comprehensive instruction for all those desirous of improving their knowledge of agriculture. The instruction will be simple and the bulk of the teaching demonstrative. The class will be placed under the superintendence of a College diplomate. This course is intended for (1) large landowners who desire to improve their farms ; (2) persons, who wish to adopt the profession of land-agents or managers of estates under the Court of Wards ; (3) selected revenue officials deputed by a Deputy Commissioner ? (4) Normal School masters ; (5) small zamindars, who have passed the primary school examination. All applications for admission to the vernacular course should be addressed to the Principal of the College.

The Secretary of State has sanctioned the deputation of Mr. J. H. Barnes, Principal of the Punjab Agricultural College, Lyallpur, and Agricultural Chemist to the Punjab Government, for a period not exceeding eight weeks to collect information on the sugar industries in Hungary and Egypt. Mr. Barnes, who is at present on leave in England, will return to India *via* Hungary and Egypt in order to prosecute his enquiries.

School of Commerce, Calicut.

The opening ceremony of the new building for the Government School of Commerce, Calicut, took place on Tuesday the 24th instant, when the Hon'ble Mr. J. H. Stone M. A. F. R. H. S. presided.

The proceedings began with an address read by Rao Sahib S. Vydianatha Iyer, Head Master of the Institution, sketching briefly its history, progress and work.

TECHNICAL EDUCATION IN RELATION TO LABOUR.

ATKINSON—DAWSON REPORT.

The Report on the Enquiry to bring technical institution into closer touch and more practical relations with the employers of labour in India by Lieut-Col. E. H. deV. Atkinson, R. E., and Mr. T. S. Dawson is to hand.

As the result of the enquiry, it is found that there is an almost universal demand among employers of labour for technically trained Indians, who have undergone a practical apprenticeship. The following general recommendations are based on the enquiry :—

The existing system of training for the Civil Engineering profession in central colleges is the most suitable one for the requirements of India.

Apprenticeship for one year on practical work in the Public Works Department should be granted, if possible, to every student passing out of a Civil Engineering College.

There is practically no opening at present for the employment of high grade mechanical or electrical engineers whose education is mostly of theoretical character.

There is a very large opening for the employment of men in mechanical and electrical engineering, who after training in a properly equipped Institute, are willing to gain their practical experience by apprenticeship on a living wage, work with their hands, and observe factory hours and rules. This employment is open to Indians of every caste or creed, grade of social position or education, provided these conditions are observed ; and the height to which they can rise depends on their individual characteristics.

The best method of training men in mechanical and electrical engineering to meet the existing demand is by a course at a well equipped Institute, followed by an apprenticeship in works. Institutes should not grant any certificates till this apprenticeship is satisfactorily completed.

The education given in the Institute should be essentially practical : be capable of being applied commercially, and not of such a high scientific character as is often considered necessary in the West.

Large mechanical and electrical Institutes are, at present, only necessary in those provinces in which industrial development is well advanced. Minor Institutes should be properly endowed, equipped with adequate staff and apparatus, and placed under proper control as regards their courses and certificates.

The staff of all Institutes should be carefully selected, and consist of men with the necessary theoretical attainments and extensive practical experience. To keep in touch with the various industries, the staff should be permitted to take up consulting and advisory work as opportunity offers.

The scheme recommended for technical education for the mining industry is detailed.

Apprenticeships after a course at an Institute as detailed above are equally necessary for technical education in the texile industry ; in which the courses in spinning and weaving should be separate ones.

Afternoon classes for textile jobbers and mistris should if possible, be instituted in suitable centres if a satisfactory demand exists to give practical demonstrations in the vernacular in the theoretical side of their work.

Arrangements should be made for the permanent co-ordination of the relations between institutions and employers of labour by the appointment of a controlling officer, and the establishment of an employment bureau.



[By the Courtesy of Dr. Harold H. Mann, Principal.]

POONA AGRICULTURAL COLLEGE.

(The Collegian and Progress of India. No. 1. October, 1912.)

V. RAY & SONS, PRINTERS.

The Poona Agricultural College.

The opening of the new buildings for the Poona Agricultural College, the central institute for higher agricultural education and investigation in the Bombay Presidency, affords an opportunity for giving a short sketch of the progress of the ideas which it represents, and their material embodiment in the buildings now to be devoted to their proper purpose.

The institution of higher agricultural education in the Bombay Presidency dates from the year 1878. At that time, partly, as a result of one of the most severe famines of the nineteenth century, general attention was turned to the possibility of increasing the resisting power of the country to famine by an improvement of the agricultural methods in practice. As a result, classes were founded at what is now the College of Science, Poona. At first the course was elementary. The object was more especially to produce men who should occupy the position of "*Bhag Karkun*," known in other parts of India as Revenue Inspector or Kanungo. Students who had successfully passed through the classes were granted the same privileges in Government services as those who had passed the first B.A. of the Bombay University. When first instituted, the classes in agriculture formed a two years' course, and they opened with thirty students. Scholarships on a fairly liberal scale were offered. Unfortunately, however, there were few suitable openings for passed students, and the number attending the classes soon fell off. The course was originally a purely theoretical one, but a step in advance was made in 1880, in introducing a practical element into it. A farm, ultimately made up to seventy-two acres, was acquired near the College of Science, and used regularly for the instruction of the students.

Some time after this came the report of the Famine Commission of 1881, which recommended the creation of Agricultural Departments throughout India, with special officials in every district whose business it would be to watch over agricultural interests, to collect information about agriculture and to make recommendations or to carry into effect suitable measures for the improvement of the agricultural population. To adequately carry out the suggestions of the Commission, it was recognised that men with a higher agricultural training than had hitherto been obtainable were necessary. It was a good many years before any scheme for giving this training could be brought into practice. Ultimately, however, in 1890, the University of Bombay, after long consideration, decided to grant a "Diploma" in Agriculture. To obtain this involved a three years' course at the College of Science, Poona, or at the Baroda College, and thus for the first time Agriculture received University recognition.

The result of this change was that, from that time onward for several years, a considerable number of men were trained in the Agricultural Classes at the College of Science. The numbers in the classes, however, rapidly fell off, as (owing to the rules for entrance to Government Service) the men who had obtained the Diploma in Agriculture were given no advantage, except a preferential claim to minor appointments, over those who had merely matriculated at the University. As most of the students entered the course with the idea of turning their agrieultural training to advantage in the public service, it was natural that, as they found the Diploma gave no preferential rights to higher posts in the service, further students ceased to come. The number admitted to the Agricultural Classes, hence, fell to four in 1893, and to three in 1894, while there were none at all in 1895. Not a single student obtained the Diploma in Agriculture from the College of Science from 1897 to 1901 inclusive.

In 1897, the first step was taken to remove the causes of the unpopularity of the Agricultural Classes. The standard of admission to the course was raised from the Matriculation to the "Previous Examination," and in consideration of this fact, the Government agreed to give the same privileges to men who had obtained the Agricultural Diploma as to graduates of the University. A still further change took place in 1899. The Diploma course had long been evidently unsatisfactory and there was a general demand for an Agricultural Degree, to be given by the Bombay University. At last, in September 1899, the University consented and established a regular course leading to the degree of Licentiate in Agriculture. The "Previous Examination" was made the entrance to the course and a thorough training in Agriculture, Chemistry, and Natural Science was demanded. Special stress was laid down on the importance of training in practical agriculture. The course then laid down was that under which the Agricultural classes were carried on until the institution of the Agricultural College in January 1908.

In the meantime, higher agricultural training became popular. The numbers of students receiving the degree increased every year, as follows:—1901—none: 1902—1: 1903—2: 1904—3: 1905—6: 1906—7: 1907—11: 1908—21: 1909—26: 1910—36: 1911—20. This increase of the popularity of the course is partly due to the general increase of interest in Agriculture which has arisen since the terrible series of famines from 1896 to 1901, and partly to the development of the Agricultural Department of the Government of Bombay, and the need of trained men to fill the various positions in connection with it.

The increase in the size of the Agricultural classes caused such a congestion at the College of Science that during the year 1905 it was decided to establish a separate Agricultural College. A fine site for a College and farm of nearly 150 acres was secured near Poona, and a plan for a first class College and Research Institute was drawn up. While awaiting the completion of the buildings, the College was temporarily located in a series of houses, which were adapted for College purposes. Until January 1908, it was still attached to the College of Science, but was carried on under the supervision of a committee for the professors responsible for the Agricultural course.

Coincidently with the complete separation of the Agricultural College from the College of Science, the Bombay University made a further change in the course for the degree. The scope was extended and made even more practical than before, the standard was raised, and form 1909 the Graduatee have had the title of Bachelor of Agriculture. The dates of the session were also altered and it now runs from June to January, so as to cover the most important agricultural months of the year in the Bombay Presidency.

Construction of the new building was commenced in 1907 and to-day we see the completion of the working part of the College The scheme includes three buildings. The largest or central one forms the kernel of the whole, and in it are located those sections which deal with agriculture as a business, with the technical methods of farming, with gardening and horticulture generally, with botany, with the study of insects, with farm pests and plant diseases, etc. The smaller building, now finished, lying to the west of the central block, contains the department of chemistry and physics. The third block, not yet completed, is intended as a large hostel for students. The whole buildings have been designed by the Consulting Architect to the Government of Bombay, and the construction has been carried out under the supervision of the Public Works Department.

These buildings are intended to serve rhree purposes:—

1. In the first place, they are, as has already been described, the centre of higher agricultural education in the Bombay Presidency. In this connection the course is three years in duration and leads to the degree of Bachelor of Agriculture of the Bombay University, and is under University control. It is as thorough a training in agriculture—largely practical—and in the sciences which are at the basis of agriculture as the time allows This course is attended by students from almost every province in India. The annual admission of new students numbers nearly forty, or a total of about one hundred in the College at any one time.

There is also a short one year's practical course lasting one year only, which bids fair to be very popular. This is essentially *practical*, the work is done by the hands of the students themselves and the effort is not so much to teach agriculture as a science, as to give a through grasp of the best practice known applicable to the conditions of this part of India.

2. Bnt this is not the only purpose of the buildings. They not only form a teaching centre,—though this is and must be their primary fraction,—but they are the centre for research and investigation into agricultural and associated problems in the Bombay Presidency. Each of the staff is supposed not only to be a teacher, but also an investigator in his own special subject and hence a considerable part of the space available is devoted to giving facilities for such investigations. Inquiries keep pouring in, in ever increasing numbers, from the agricultural and general Public as well as from Government, which demand research before they can be answered,—and to carry on such investigations is a primary purpose of those who occupy the buildings to be opened to-day.

3. The Poona Agricultural College is even more than this. It becomes, in an increasing measure every year, a central bureau of agricultural information, and hence the centre of a movement for agricultural improvement. During a large part of the year there is rarely a day passes but cultivators visit the College or College Farm for information, for seed, for implemente, or for other things which can be supplied. The Professor of Agriculture is the chief technical expert in agriculture of the Agricultural Department for the Deccan: the Professor of Botany is also Economic Botanist to the Government of Bombay, and is, hence, the chief expert on fruit culture, on gardening for market, and the like subjects in the Presidency: the Professor of Chemistry is also Agricultural Chemist to the Government, a fact which brings him into touch a large number of questions on which inquiries are continually being made.

These triple functions of teaching, of investigation, and of serving as an inquiry bureau make the Poona Ageicultural College the centre of a mevement towards agricultural improvement which is growing in force every year.

THE HINDU UNIVERSITY

The Deputation in Behar. Mrs. Besant's Speech.

The Hindu University deputation headed by Mrs. Besant reached Bankipur on 25th September from Gaya. She addressed a meeting at Gaya on the Hindu University. She laid stress on the teaching and residential character of the University and pointed out the advantages of a teaching University over the present Universities of India which were merely examining boards and exhorted the Hindu community not to feel disheartened over the Hon. Sir H. Butler's letter regarding the question of affiliation.

She was followed by Messrs. Gurtu, honorary head master, Hindu College and Ishwar Saran, Vakil, Allahabad High Court. Although the meeting was held at short notice over Rs. 30,000 was promised and about Rs. 1,000 was paid on the spot. Messrs. Gurtu and Ishwar Saran accompanied by the leading gentlemen of the town saw the wealthy gentlemen of the place and it is expected that Gaya district will contribute over a lakh to the University. Mr. Pittar, District Judge, who was present at the meeting subscribed Rs 100.

Mrs. Annie Besant delivered a stirring speech in the open air on the Hindu College and Hindu University. She regretted that the main object for which the two Universities were needed had been kept in the background while discussing the Government's decision. The University as an examining board was unknown in England. She described how Cambridge and Oxford trained students in their atmospheres as worthy citizens and how London University was meant to grant degrees to the clever students who had no University training. She emphasised the value of University training over College training under a University of the examining board type. She exhorted Hindus and Mahomedans to welcome enthusiastically the Government decision to grant them residential and teaching Universities, which would enable Benares and Aligarh to become centres of Hindu and Mahomedan culture respectively. She showed how it would be difficult to control and supervise colleges scattered all over India. The present Universities had failed in the supervision of colleges under a limited area. How then could Benares and Aligarh Universities supervise colleges all over the country? She said a great work had to be done to build up the two Universities. Colleges for different subjects viz., arts, science, industries, technique had to be established. She appealed to the members of both the communities to be practical. She preferred Benares and Aligarh, instead of Hindu and Mahomedan Universities.

Dr Rashbehari Ghose.

Dr. Rashbehari Ghose who has arrived at Simla is firmly in favour of going on with the work of the Hindu University and of establishing it as a residential University at Benares. He has authorised Pandit Malaviya to let it be known that his donation of one lakh will be paid when he returns to Calcutta next month.

Subscriptions.

The total amount realised up to the second fortnight of September is Rs. 15,71,508-8-7. The bigger donations specially are rather slow in coming in. A good many have however promised to pay in theirs in the course of the next two or three months which the sooner it was done by all donors the better as the managing committee must have in their hands at least a sum of fifty lakhs before they can feel gratified in approaching Government with a request to undertake legislation in the matter. The draft constitution sub-committee will meet *de die in diem* from the 13th October 1912, and a meeting of the Managing

Future of C. H. C.

The Hindu College of Benares will soon pass into the hands of the Hindu University authorities. Mr. Arundel will lay down his office in March next. Mrs. Besant is also likely to withdraw from the active guidance of the college, the same being vested in the hands of the university.

Mrs Besant's views.

Mrs. Annie Besant writes in the "Central Hindu College Magazine":—The Indian has only known Universities founded by the Government in this country, wholly alien from the old centres of learning such as those of Nadia, and the like. These Government Universities have not been real Universities at all, but mere Examining Boards. They have been the centre of geographical districts, in which arose "affiliated" Colleges and and "recognised" Schools, and from these came their undergraduates. They are responsible for the efficiency of these and have been struggling to exercise some effective supervision over them; but the supervision is not very successful, as is testified by the extraordinarily low percentage of passes at their examinations. They can only maintain the standard of their degrees by a merciless annual slaughter of the ill-prepared candidates sent up. They cannot become centres of learning, still less of culture, for they have nothing to do with the surging crowds of students save to examine them. The new Universities have asked for powers of affiliation to extend over the whole of India, not over only a fifth part thereof, and are to exercise supervision—of what sort?—over Colleges situated from the Himalaya to Tuticorin, from the shores of the Bay of Bengal to those of the Indian Ocean. Unless this be given them, say some of our Moslem brethren, it is not worth while to have a University of our own at all. The Englishman has only known in his own land Universities which educate, not only examine, and the experiment of the modern Examining Board called the London University has been looked on with much disfavour and it is being changed. Its graduates did not bear the stamp of "University man," and were not regarded as such by the products of the real Universities; they were learned and able, but were not necessarily cultured gentlemen. Their social value as London graduates, was nil. The "Oxford man," the "Cambridge man," he was known all the world over, and if not always learned he was polished and "clubbable"—a social asset. Hence, to the Englishman, the hybrid Examining University has always been an object of derision and goodhumoured contempt. Probably Englishmen in India hardly realise that the only ideal of a University known to Indians is of this type, and that the Indian is naturally disappointed when the ancient ideal of a University is offered to him in exchange for that which he had expected, while the Englishman may feel annoyed if what he thought to be a gift of gold instead of one of tinsel is received with murmurs of displeasure. What to do? I say, quite frankly, the residential teaching University is the only one which is really worth having, and the Indian with his acute and understanding mind, will realise this as soon as he escapes from the obsession of these Goverment Examining Boards, the poor—though for the time the only possible—substitutes for real University education.

MOSLEM UNIVERSITY.

The 'Times' in an article on the communal Universities of India dwells on the disappointment in some quarters owing to the reported decision of the Government on the question of affiliation. The journal thinks that the linking of inferior institutions might soon debase the hall mark Aligarh which has stood for so much in Indian Moslem culture. The question of affiliation is for the somewhat distant future rather than to-day.

Withdrawal of Subscription

Hazi Ahmed Musajee Salehjee has withdrawn his contribution of Rs. 10,000 to the Moslem University Fund in view of the recent Government decision. Other leading Calcutta contributors contem-

EDUCATION ABROAD

The London Charlottenburg.

There has been a frank discussion at the London County Council on the question of an increased grant to the Imperial College at South Kensington which it will be remembered, was the outcome of Lord Rosebery's letter in July, 1903, to Lord Monkswell, Chairman of the Council. The original proposal was for a great college of applied science working in co-operation with the Royal College of science, and the Council Technical College. The Council fell in with the idea, but the Government upset it by bringing the other Colleges definitely into the scheme. We are disposed to agree with Mr. Cyril Jackson that so long as the undergraduates are there the College cannot do its best work. Energy has been dissipated and progress has been slow. The Council, has, however, agreed to increase their grant from £8,000 to £13,000 for five years, and the Board of Education has also promised a substantial additional subsidy. Before that period elapses, the Royal Commission on University Education in London will no doubt have reported.

Evils of Written Examinations.

The report of the Intermediate Education Board for Ireland for 1912, which has just been issued, states, that notwithstanding the cramping influence of the present system of examinations forced on the Board by the Acts of Parliament many improvements have been effected by the readiness of the teachers to adopt the suggestion of the Inspectors. The present system attempts to force all schools into the same mould by making all submit to the same examinations, and forcing them into competition with one another—a competition which is naturally injurious to the best interests of secondary education. Each school should be allowed to develop on its own lines. The curriculum should be framed and the methods of teaching should be directed to suiting the aims and objects of the school, not to securing as many successes as possible in the examination. The Commissioners proceed to give an interesting criticism on the value of written examinations. They write: "While it is admitted that written examinations produced a good effect in many cases as an incentive to work and as a measure of the relative attainment of students in different schools, and test the abilities of the pupils to answer written questions, yet they cannot be regarded by themselves as the sound criterion for judging any individual school as a whole and they often have a bad effect on the minds of pupils and teachers. As regards pupils, they set a premium on the power of mere reproduction of other people's ideas and other people's methods of presentment and divert energy from the creative process. They reward evanescent forms of knowledge and often do not favour the best type of mind. They often give an undue advantage to those whose possession of the examination 'knack' may conceal the slenderness of their attainments: they often induce students in their preparation of an examination, to aim rather at absorbing information imparted to them by the teacher than at forming an independent judgment on their subjects of study; they often give a false perspective to school life, and encourage student to cultivate merely an examination frame of mind, which is incompatible with the true spirit of education. The teacher, on the other hand, whose methods are sound and good receives no recognition if he had bad material to work on; when he has good material, if he does not follow the rigid line of the examination syllabus, he may find that his students are not so successful as those who have not been so soundly taught, but who have been trained to adapt themselves to the exigencies of a written examination. Consequently his freedom in the treatment of a subject is limited and he cannot give full play to his individuality." We commend this shrewd criticism to those of our own educationists who look upon the examination result as the sole measure of successful teaching.

The New Model

In some of the vocationalized American Schools there are girls clubs, and competition among them is encouraged by means of prizes. For example, it is proposed that the club which produces the best ten samples of tomatoes grown on its own plot shall receive a banner or a set of gardening tools; whilst the girl who can label the greatest number of canned tomatoes in ten minutes is to be rewarded with money or a free trip to a fair. It is in Oregon that agricultural education is most highly developed. There five thousand children already grow all the popcorn and melons they can consume, and have a surplus *the sale of which brings them pocket money.* This year they will enter into competitions in the raising of vegetables, grains, pigs, and poultry; also in carpenry, sewing and cooking. The prizes will be provided by the State Bankers' Association and by other societies. An American newspaper, the *Saturday Evening Post*, grows eloquent in the praise of this New Model. "There is infinitely more true education in raising a melon or making a pie than in learning by rote 'that a verb that makes assertion by coupling an attribute complement to the subject is called a copula.' The melon and the pie justify themselves and satisfy the mind." In England the country secondary school will now blot complements and copulas from its vocabulary; it will educate its pupils mainly in the growing of potatoes and vegetable marrows. Higher education will enable them to get starch from potatoes, and, with the addition of sugar and chemicals, to convert vegetable marrows into any required kind of jam.—*Journal of Education.*

Young Canada

Mr. Kenneth Bell contributes to the *Cornhill* a study of the University of Toronto where he passed two years as a teacher of history. All should read it who care to know not only what the Canadian undergraduate, but also what life in Canada, is like. We can only glance at some of the most striking features as here portrayed. The first impression is that culture is still to seek. It is not imported in the common schools, admirable as these are *qua* day schools, nor is it found in the home where nothing is read but an inferior sort of *Daily Mail*. Toronto is the University not only of the province, but of the people. Rich and poor, men and women, all meet on an equality. Mixed education is not an unmixed blessing. It tempts the Canadian boy to a rather sickly dangling after his girl classmates in an atmosphere redolent of candy. The word "boy" is deliberately chosen, for, though the Canadian in years and knowledge of life is a man compared with the Oxford undergraduate, in mental development and social *savoir faire* he is a raw schoolboy. But, unlike his congener, he takes his studies seriously and is even more a slave to examinations. And, lastly, he is more truly patriotic. In England we talk of the Government, the upper classes, or the Socialists as *they*—making or ruining the country, as our political opinions may be; in Canada it is *we*. In Canada the world is all before them; we English look more with reverted than with forward eyes.

Cape of Good Hope. Some details from the report.

The education report just received deals with the year ending September 30, 1910. In it the Acting Superintendent-General draws attention "to the evidence of satisfactory progress along all the various lines of educational activity, with one important exception—the provision of needful school accommodation. This progress is due in part to the increased importance which the people of this Province generally attach to educa-

tion, in part to the interest School Boards take in their work, and not least to the faithfulness with which the great majority of the teachers perform their duties." As to the extension of obligatory education, we observe that by the end of the year in question out of a total of 119 School Boards 87 had passed resolutions in favour of compulsory attendance. The number of European children registered in the schools was 82,315, an increase of 4, 668 on the previous year; whilst the average attendance worked out at the rate of a little over 90 per cent. of the enrolment. Formerly the weakness of education in the Cape of Good Hope was in the inadequate supply of qualified teachers. It has now been got over. The percentage of certificated teachers rose from 59·94 in 1909 to 62·23 in 1910; and the five training institutions for European teachers, the twelve for native and coloured teachers, were well-attended. A curious fact is revealed by extracts from the report of Inspectors. The children are prone to indistinct utterance, the slurring of final consonants and the faulty pronunciation of vowels Do what we will, the causes which produce dialect are still operative, as well as the causes which elevate a dialect into a language.

Health of American School-Children.

According to the report presented by Dr. T. D. Wood, Professor of Physical Education in the Teachers' College of Columbia University, to the United States Bureau at Edmonton, the physical condition of the children attending the public elementary schools leaves a lot to be desired. "Of the 20,000,000 school children in the United States," says Dr. Wood, "not less than 75 per cent. need attention to-day for physical defects which are prejudicial to health and which are partially or completely remediable." Some of the doctor's conclusions are as follows:—Several million children have two or more handicapping defects; 400,000 have organic heart disease; at least 1,000,000 have or have had tuberculosis; about 1,000,000 have spinal curvature, flat foot, or some other moderate deformity; over 1,000,000 have defective hearing; about 5,000,000 have defective vision; about 5,000,000 are suffering from mal-nutrition; over 6,000,000 have enlarged tonsils, adenoids, or enlarged cervical glands; over 1,000,000 have defective teeth which are interfering with health; about 100 cities have organisations for the care of health in the schools. Seemingly, the rising generation in the United States is no better from a physical point of view than their cousins in Great Britain.

Public Libraries and Education.

At the thirty-fifth annual meeting of the Library Association, which was held at the Central Technical School, Liverpool, a suggestive paper was read by Mr. Doubleday, of Hampstead, on the province of public libraries and their proper utilisation. Returns of recent years concerning the books most frequently in circulation show that in nearly every quarter there is a steady and continuous decrease in the demand for fiction, the percentage of which in the metropolis is now only about forty, while the demand for educational and instructive books is just as uniformly increasing. This change in the general public taste is a distinct gain; hitherto there has often been an uneasy feeling that the public library was to a large extent little more than the provider of gratuitous entertainment to the general community, whereas, as Mr. Doubleday very justly said, it ought to be the natural successor and assistant to the school, and the library's work in that direction alone gave it a public value even from the narrowest economical standpoint. In other words, the public library should act as an instrument for the diffusion of useful knowledge among the nation, and thus be a means of promoting the public welfare. It is on this ground that we have watched with close attention the tendency during the last few years towards the organisation of juvenile departments in libraries, so as to bring them into definite and direct relationship with cle-

City and Guilds Institute.

THE program of the Technology Department of the City and Guilds Institute has just been issued. The Institute registers and inspects classes in eighty technological subjects, and also awards certificates for teachers of manual training and domestic subjects. The volume just issued extends to 370 pages, and includes syllabuses and lists of works for reference which give useful guidance to teachers and students in provincial centres. The registered classes of the Institute are held in every quarter of the United Kingdom. The City and Corporation of London thus evince a broad-minded, national conception of their educational work.

Stimulus for the Teacher

In all countries prizes are for the children whilst the instructor looks on and sees them distributed. France shows an increasing tendency to stimulate the teachers themselves by means of awards for merits. Thus the Fondation Eugene-Monnier—M. Monnier was a member of the Society of Architects—provides a reward for the Primary teacher, man or woman who has had most success in the teaching of drawing. This year it has been bestowed on Mme Perrin, a teacher at Saint-Laurent-les-Macon (Ain), who received a large silver medal and a sum of 200 francs. Two other teachers received silver medals and five honourable mention. Teachers, too, will be eligible for the *prix de vertu* established by the late Mme Lebouteux which is for savants or their assistants who give proofs of devotion and disinterestness in the exercise of their vocation.

Salaries of women.

The chief prize, it will be observed was awarded to a woman teacher, and three of those honourably mentioned were women. Communities are beginning to learn that in determining their obligations to the teacher sex should have no moment. We welcome a note-worthy sign that the conscience of France is awakening to this fact, M. Louis Marin has introduce a Bill of which the first clause is to the following effect The salaries of women teachers in primary schools and of women functionaries depended on the Ministry of Public Instruction, are to be placed on the same footing as the salaries of men teacher and men functionaries of the same class. A meeting to promote equality of payment was lately held at the Hotel des Societes Savantes.

Professor Rudolf Eucken.

Professor Rudolf Eucken, of Jena University—the world-renowned professor of philosophy, who was awarded the Nobel Prize some four years ago—is shortly going to America, where, at the invitation of the authorities of Harvard University, he will deliver a series of lectures on philosophy. I seems a pity that despite his European reputation and the fact that his works are being translated into most of the European languages, our two older universities have been forestalled by Harvard, in introducing this distinguished man to the English-speaking public. We believe that in June, 1911, certain of the Free Churches arranged that Dr. Eucken should give a brief course of lecture in London, and that Dr. Eucken visited Oxford on that occasion but he has not we understand, as yet received any official invitation to hold a course of lectores at either Oxford or Cambridge.

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According to a Chinese paper General Li has decided to send 60 students abroad at a cost of Taels 40,0000 per annum. Tls. 5,000 will be assigned for eight students to study Navy affairs in Great Britain; Tls. 4,000 for six students to study Military affairs in Germany; Tls. 10,000 for 20 students to study mineralogy in Belgium; Tls. 6,000 for ten students to study industrial affairs in America: Tls. 8,000 for eight students to study law in France and mathematics in Italy respectively; and Tls. 6,000 for eight students to study political economy in Japan. If the funds

are not sufficient for so many students to complete their courses rich people will be invited to contribute money for the purpose.

A circular issued to prefects by the French Minister of Education on the subject of teacher's associations states that these associations have always been regarded as illegal, but were tolerated until the Bill dealing with association among Government employes had been passed, because it was thought that they simply dealt with the question of the protection of the professional interests of their members. "A turbulent minority having brought unjust discredit on secular teaching, and the associations having become hotbeds of national disaffection, the Government must suppress them, for the intolerable could not be tolerated." It is said that the decision of the Government owes its origin to certain anti-militarist resolution passed at the National Federation of Teacher's Unions, which opened at Chambery on 16th August. According to the report of the proceedings at the Conference when the objectionable resolution were adopted it was impossible to give at the time an intellegible account of the proceedings for the discussion was for the most part so confused that even the president of the Congress observed: "I do not know what the reporter will make of it; the whole thing is a helpless muddle." Even in regard to our own Conference (the *school master* says) we know how prone the Press is to seize upon "spicy" incidents. Anyhow we feel quite certain that the French teachers, as a body. are as patriotic as any men and women in the land. At the best of times their lot is not a happy one, their remuneration being extremely inadequate, consequently it is not surprising if some of the younger men voiced their feelings in strong language. To suppress the union for such indiscretion appear to us to be anything but a wise policy. The payment of a living wage would be a better remedy

Suppression of French Teachers' Association.

WHAT OUR STUDENTS ARE DOING ABROAD

Indian Successes at I. C. S.

The following Indian Students have been successful at the last I. C. S. Examination :—B. K. Basu, S. N. Roy, B. R. Rau, Ram Chandra, S. S. Nehru, V. A. Godbole, K. C. Sen, and Mr. Rodrigo (of Ceylon). We offer our hearty congratulations to the New Civilians.

Mr. J. C. GHOSH, B. Sc. (Manchester), F. C. S., who has been appointed as Analytical Chemist, Government Medical Stores Department is posted to Government Medical Stores, Madras. Mr. Ghose who is a Bengalee, is the first Indian to fill the new appointment now created. He had been over 25 years in the Secretariat before he was deputed to England in March 1910 to qualify as a Chemist. His deputation was recommended by Surgeon-General Sir C. P. Lukis, K,C.S.I., and was due to the meritorious service rendered by Mr. Ghosh in the Secretariat where he had to deal with all questions connected with the Indian Medical Service and Medical Stores Department. Mr. Ghosh has fully justified his nomination by obtaining the B. Sc., degree from the Manchester Uuiversity which is reputed to be the best place in the United Kingdom for chemical and technological work. He has also done a great credit to himself and to his Bengalee race by taking up serious studies at a middle age after 40 in a foreign country and completing with success in examinations a three years course in two years time. We heartily congratulate him on his success which we hope will lead to his further advancement in view of the combination in him of scientific knowledge with the financial and administrative training imparted by long Motilal Nehru, has come back after a long stay in England where he was educated at Harrow and Cambridge and was called to the bar. He will be enrolled as an advocate of the Allahabad High Court. The many friends and admirers of Pandit Matilal will wish that Mr. Jawahar Lall may achieve the same success as his distinguished father in the profession as well as in public life.

Mr. G. Bardaloi from Assam is the only candidate of the mining branch who has obtained the B. Sc. degree of the Birmingham University. He also headed the list of successful candidates in the diploma examination. Mr. Bardaloi is a gradute of the Calcutta University and went to England as a State Scholar. We wish the youngman all success in life.

A large and influential meeting representing all classes of the people Hindus, Mahomedans etc., was held at Sylhet in the local Town Hall to give a hearty reception to Mr. Obaidullah just returned after completing his education in the Birmingham University securing the degree of B. Sc., in Mining. The meeting was a great success, Babu Govinda Chandra Chatterjee, senior pleader presided. Several Speakers drew the attention of the students present to the difficulties under which Mr. Mr. Obaidullah had fought out his way and urged upon them to hold him up as an ideal while fighting out life's battle.

In pursuance of a Resolution passed at the last Arya Vysya Conference held at Kumbakonam under the auspices of the Arya Vysya Mahasabha, a Vysya graduate named B. Soorya-Narayana Chetty, a native of Anantapur, was sent to England to prosecute his study in Civil Engiogering. An entertainment was given in his honor by Mr. K. Lakshminarayana Chetty, at his residence in Georgetown, Mr. T. Seetharama Chetty presiding over the deliberations of the evening. The entertainment was largely attended. Mr. Salla Guruswami Chetty proposed the toast of the guest of the evening and this was suitably responded. Several speakers spoke on the advantages of Western education. With the usual votes of thanks to the chair, the proceedings came to a close.

An Indian writes to the Honkong Press a letter upon the need of an enlargement of the Anglo-Indian School in the Colony, taking as text the announcement made at the recent prize distribution at Yaumati that ten boys were refused admission to the Anglo-Indian School in the Colony during the year, owing to lack of accommodation. In view of these facts, and taking into account the annual increase in the population, the correspondent says it is probable that more boys may be refused admission in the coming year, if no extension of the school is effected. It is well known, he says, that the English school has generated a love of learning even amongst the poorer classes of Indians in the Colony, and several of them are about to bring out their sons and relations from India for the purpose of education. There would be very great disappointment for such men if their boys could not be taken into the school. The Indian boys have only this school in the Colony where they can pursue the study of Urdu as well as English. The correspondent adds :—"Its need can be imagined from the following fact:—I remember, before the existence of this school, a friend of mine had two sons grown up to the age for sending to school, but when he took them to one of the Government schools the headmaster, finding that the boys could speak no other language than Hindustani, refused to take them in. The father tried a few more schools in succession, but the same negative reply was ready for him. Therefore, it can safely be said that the Anglo-Indian School is one of the most useful for the Indian community in Honkong. In consideration of its usefulness, it is hoped that the Director of Education will spare no effort in recommenping to the Government either the extention of the present premises or the erection

The Pedagogy of the Hindus.

BY PROF. B. K. SARKAR, M. A.

National Council of Education, Bengal.

Demand for Religious Education in India.

For two generations the people of India have been receiving education and culture under the auspices of Universities of the English Type. And one short-coming of this system has ever been noticed by critics and supporters since its introduction. This is the absence of provision for spiritual training in the educational scheme.

The people for whose benefit the system was inaugurated soon began to perceive that reverence and faith were fast disappearing from the ranks of its alumni, and relations of love and sympathy were becoming things of the past in the community. To remove this moral anarchy and social disintegration private arrangements had to be made for imparting moral and religious instructions in students' hostels and boarding houses, and efforts were directed in some quarters towards the foundation of temples and religious seminaries within the College Campus. By and by the authorities also felt the force of these silent protests on the part of the leading members of the society. 'Who can say,' thought they, 'that the want of moral and religious education in schools and colleges is not responsible for the dissemination of seditious doctrines and prevalence of anarchistic crimes among the educated community ?'

In the meanwhile the National Council of Education, Bengal, came into existence with the specific object, among other things, of providing for denominational religious instruction to its scholars, and two new Universities are going to receive official charters which will make the teaching of theology a compulsory item of their programme. These 'national' attempts and such-like private efforts in the educational field could not but influence the Government of India, and the Education Department has at last started an inquiry as to the desirability of making provision for lessons in religion and morality along with the arts and sciences. Besides, there is in contemplation a scheme for the foundation of a first-class Research Institute under the direct control of the Supreme Government to encourage the study of oriental literature, philosophy and history, and to promote original investigations generally in matters connected with the country's past and present life. So one may confidently hope that the study of religion will soon occupy a secure position in the educational enterprises of the land.

India's Misfortune.

But in this connexion one is painfully reminded of the eternal misfortune of the present-day India, the evil that never ceases to shadow Modern India in any of her undertakings. Many have been the efforts for our country's good in recent times, but very few have had any natural and necessary connexion with the people's wants and requirements. It has been our permanent tragedy to fit square grooves in round holes by applying to the conditions of our collective life remedies adjusted to other national temperaments, by forcing upon our own community discoveries that perhaps effectively solved the problems of other ages and climes.

Thus, for example, if a code of laws have to be introduced in India, precedents are sought in foreign societies and even the draft and preliminaries are framed elsewhere. Is industrial regeneration wanted in India? Large factories and workshops are forthwith opened and the adoption of Free Trade principles becomes the settled policy in commercial life. Have the lower classes of Indian people to be educated? The abolition of the caste system becomes a desideratum and is regarded as almost a pre-condition, or there commences a regular and systematic purchase of magic lanterns all over the land! Have the health and physique of the Indians to be improved? Footballs and dumb-bells crowd into the market in absurd proportions. Or again do the Indians want unity? Why, let the Hindu and Mussalman, Brahmo and Christian display their feelings of brotherly love and solidarity by dining together at the same table. The fact is, be it the spread of education or political advancement, social reform or economic amelioration, it is the invariable rule in India to take steps and adopt measures without any reference to the genius and temper of her people, her past history and national tendencies.

Such abnormal phenomena are of course not accidental. They have their reason. In almost all matters the initiators and organisers of change in our national life are the rulers. It is their Professors and propagandists who are our leaders in educational and intellectual undertakings. It is the engineers and physicians, businessmen and scientists belonging to the community of our governors who are our guides, philosophers and friends in our industrial and commercial enterprises, sanitary schemes and scientific experiments. These blessings of foreign help must be received with its inevitable short-comings. So India must be prepared for what our governors can give out of their western experiences and from the results of their own national education. And those of our countrymen who have taken the cue at their hands, whose public activity and work in life have been inspired by the precepts, examples and encouragements of these well-wishers have not yet had any scope for the display of their own ability by thinking and administering for themselves. The age of passive imitation and discipleship has not, therefore, left us, and the sense of a separate individuality has not yet developed to any considerable extent.

There is, besides, a very deep reason for this attitude of dependence. Some of our thinkers seem to have been spellbound by the idealism and transcendentalism of such eminent philosophers and prophets of the west in modern times as Carlyle, Whitman and Tolstoy. These countrymen believe that they have really grasped the essence of Hindu philosophy and social life solely on the strength of their intellectual appreciation of the transcendental and supermundane tendencies of modern western literature. As a consequence there is very little honest attempt to understand and master the essentials of Hindu socio-religious thought and institutions, the peculiar bent of our national life and the distinctive ideals of our civilisation and culture. The ability to quote one or two extracts from the *Upanishads* and the *Gita* is considered to be a high test of scholarship in Hindu spiritual literature and the adequate qualification for handling such momentous questions. And as for the teachings of *Vedanta* the immortality of the soul and self-realisation, one need not be too anxious. For one can have all these cheaply and perhaps more clearly in the pages of Rousseau and Browning, Emerson and Schopenhauer.

Moral and Religious Instruction in Europe and America.

The sense of cultural distinctness and national individuality is so weak in our intellectual life that we cannot discuss on our own account and for our own ends the diverse favourable and unfavourable circumstances of our environment. It is well nigh impossible for us to discover the ways and means adapted to our own requirements and adjusted to the problems of our own life. Have we to provide for spiritual education? The arguments of western thinkers at once flash upon our mind's eye, and we seem to play at solving those very problems in our community which they have solved and discussed in their own. Their fears and anxieties also perpetually haunt and perplex our thoughts.

The philosophers and legislators of Europe and America have certain peculiar notions about the relation between Culture and Faith. Introduce religion into the school curriculum, and learning will have to be given the go-by. Or again if knowledge be allowed entrance into the precincts of the church, faith and religion will be things of the past. Religion is religion, and knowledge is knowledge, the two will never meet. Learning is light, faith is darkness. Learning is the offspring of reason and intellect; Religion is the ward and protege of reverence and credulity. Knowledge is power and confers on man mastery over the elements of the world he lives in; Religion is subservient to God and limits and curbs the powers and faculties of man. Learning endows man with qualifications for conquering the future, Religion ties him to the bonds of the past. Learning leads to emancipation and freedom, religion to servility and subjection. So to the statesmen and scholars of the western world the blending of the two, Knowledge and Reverence, Culture and Faith, Science and Religion, seems almost to be a contradiction in terms. The idea of introducing religion into the school life is absurd and impossible like the scheme of building a castle in the air.

There is another very serious danger the

westerners have to reckon. This is the existence of innumerable denominations and the variety of religious doctrines and dogmas. If therefore religion is to occupy a place in the curriculum of studies the most difficult problem is the question of sects and sectional churches. Which doctrines, which denominations, which organisations should be recognised and encouraged in the pedagogic scheme? This is the question that tries the ability of the greatest administrators and educationists of the west; for it is very likely that any the least injudiciousness in the tackling of the problem may lead to thousand and one sectarian conflicts and partisan discords that may endlessly trouble the society. Is it desirable that the history of the religious dissensions, persecutions, and warfares of European history should be repeated in modern times? The consensus of opinion, therefore, seems to be not to intensify the breaches and foster the socio-political disunions and divergences by introducing the vexed question of religious education into the environment of educational life.

These fears and cares about the encouragement of superstition and ignorance as well as the fostering of mutual animosities and rivalries have attacked the minds of our leaders also. Nor is this all. It is also apparent that those very devices and administrative shifts that have been discovered in the west to solve its peculiar difficulties are likely to be introduced into our system of life. How have the westerners grappled with their problems? Their solution has been the establishment of a Theological Faculty in connexion with the Universities. In framing the constitution of this Faculty care is taken to represent all denominations and bring about a 'working' compromise between section and section by exactly defining the scope and province of its functions. It is also stipulated that the religious instruction should be given in a spirit of inquiry as free as possible from all national prejudices and sectarian biases. The same liberal and non-racial attitude that is the characteristic of the scientific bent of mind, the 'dry light' of reason, in short, that one brings to bear on all other studies, has to be introduced into the theological seminaries for the discussion and investigation of the truths of the religious world. In this way the study of religion is made consonant with the teachings of Science, and Faith is thus brought into harmony with Culture. Moreover, arrangements are in some places made for denominational Churches, Boarding Houses and Hostels under the University, and where the sections and denominations are wide enough altogether separate schools are created to meet the needs of the varying creeds.

CALCUTTA. B. K. SARKAR.

The Future of our Universities.

BY PROF. P. SESHADRI M. A.
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I

Persons venturing to peep into the future with the aim of unveiling its mystery in any measure, are consigned by Dante to one of the most dreadful regions of the *Inferno*. They have their faces reversed and set the contrary way on their limbs, so that they are ever compelled to walk backwards:

> Each wondrously seemed to be reversed
> At the neck-bone, so that the countenance
> Was from the reins averted; and because
> Non might before him look, they were compelled
> To advance with backward gait.

Any attempt to discuss the *Future of our Universities* must perhaps be accompanied by a fear of this punishment looming in the distance and waiting for the moment of death to fall on the unfortunate victim. But it is proposed to avoid the disaster, by not attempting the task of predicting the future of our Universities, but by confining the attention to an examination of some of the lines on which they must advance in the future.

It must be prefaced by an unstinted admiration of the brilliant achievements that the Universities can already boast to their credit. The period of half-a-century is too short in the annals of a country to judge the effects of an educational movement, but there could be no hesitation in pronouncing a verdict of the most favourable type on the appreciable progress that our Universities have made. They have generated impulses that have vivified all aspects of national life. The methods of science and reason have begun to regulate the intellectual outlook; the ethical sense has been trained to feel the wrongs of centuries; and various movements for the national good and prosperity have been successfully conceived and worked by the products of our Universities. It will not be wrong to compare the move

ment in its intensity and beneficient consequences to the great Renaissance in Europe, which Walter Pater has called 'an outbreak of the human spirit' though the operations of the Indian revival are necessarily on a smaller scale Robust faith in the good work they have been turning out in the past, and their capacity for further usefulness are among the first essentials for efforts for their future progress. Interested critics have often assailed the work of our Universities on grounds that will not bear the test of any impartial enquiry. A desire for political progress on modern lines has been represented as an inspiration for sedition and disloyalty; an attempt to free the nation of its accretions of superstition and corruptions in religious faith as a sign of national degeneration; and the cherishing of a sense of manliness and self-respect as open rebellion against all constituted authority. Even the critic imbued with a strong desire for sketching directions of future progress, ought however to take this faith as his starting point in his programme of constructive work. As Principal James says in his recent work on *Education and Statesmanship in India*, in vindication of the influence exercised by Western culture on the people of this land: 'On the main question I venture to think, the answer is complete...This vindication holds as against the impatience of advanced political thinkers who complain that too little has been done and grasp at a hasty realization of the ends to which the educational process is waking before the work of training is sufficiently advanced; and also against the one-sided condemnation of critics who pay disproportionate attention to the morbid products of a great intellectual and moral transmutation and decline to see to what extent these are merely incidental to a process in itself essentially healthy and beneficial. . . . Improvement in the details, expansion all along the line, more liberal employment of funds, these are wanted as they have always been wanted. For the rest, the watchword is *Forward* and not *Back*; *Courage* and not words of doubt and despondency.'

II

The first great step in the future of our Universities has already received some recognition—the gradual transformation of our examining bodies into teaching centres whose influence may be felt on a more appreciable scale. Thanks to the wisdom and far-sighted policy of the eminent statesman who presides over the destinies of this country to-day as the Viceroy, a happy beginning has been made by the initiation of the scheme for the teaching University of Dacca and the proposal to limit the scopes of the prospective Universities of Benares and Aligarh to the two cities. Some earlier attempts in the same direction are indicated in the organisation of University lectures, though it must be observed that their fruits have yet been shared in only by a few and the subjects which have sometimes been chosen for treatment have by no means been capable of even attempting to satisfy the intellectual needs of the community. While the University of Calcutta has wisely enough included within its programme and has even carried out special lectures on subjects like Indian Economics, the Literature of Bengal and the History of India, taking the additional care to see that the courses did not clash with the work done in the class-room, the University of Madras has thought it fit to lend the dignity of the name of University lectures to what is being said to the classes in the usual course of teaching on subjects prescribed for the examinations of the University. There is no point in marking out some of the hours in the time-tables of the Honours classes of colleges, for special recognition as University Lectures. The suggestions thrown out by Sir George Clarke in a recent note on the subject of University reform in Bombay might be kept in mind with very great advantage—the drilling in the class-room might go on in the usual routine of college work, but what is more important is the attempt to make the Universities, centres of culture to which the nation might look up for a satisfaction of its intellectual sense.

The necessity for this transformation will be felt to be fairly pressing, at least when we realise that the carrying out of the noble ends of a true University is possible only when all the intellectual resources are concentrated for effect. The Universities of Athens in the past, Paris in the middle ages, and Oxford and Cambridge in modern times owe not a little of their glory to this characteristic of collecting all the available ener-

gies into one point. One has only to go through the eloquent pages of Newman's writings on Universities to feel convinced of the utter futility of venturing to realise the ideal, in a number of scattered centres. This is especially true when the sum-total of the available resources is by no means very potent for good. 'A University,' says Newman 'is a place of concourse, whither students come from every quarter for every kind of knowledge. You cannot have the best of every kind everywhere; you must go to some great city or emporium for it. There you have all the choicest productions of Nature and Art all together which you find in its own separate place elsewhere. All the riches, of the land and of the earth, are carried up thither; there are the best markets, the best workmen. It is the centre of trade, the supreme court of fashion and the umpire of rival talents. It is the place for seeing galleries of first-rate pictures, and for hearing wonderful voices and performers of transcendental skill. It is the place for great preachers, great orators, great nobles, great statesmen. In the nature of things greatness and unity go together; excellence implies a centre. And such.....is a University... It is the place to which a thousand schools make contributions; in which the intellect may range and safely speculate, sure to find its equal in some antagonist activity, and its judge in the tribunal of truth. It is a place where enquiry is pushed forward, and discoveries verified and perfected and rashness rendered innocuous, and error exposed by the collision of mind with mind, and knowledge with knowledge. It is the place where the professor becomes eloquent and is a missionary and preacher, displaying his science in its most winning form, pouring it forth with the zeal of enthusiasm, and lighting up his own love of it in the breasts of his hearers.....It is a place which wins the admiration of the young by its celebrity, kindles the affections of the middle aged by its beauty and rivets the fidelity of the old by its associations. It is a seat of wisdom, a light of the world, a minister of the faith, an *Alma Mater* of the rising generations'—and even the great genius and artist in words is made to confess at the end of the glowing picture: 'It is this and a great deal more, and demands a somewhat better head and hand than mine to describe it well.' When this ideal is kept in mind, it will be, nothing short of narrowness of vision of the worst type, not to draw the colleges scattered over an area of examination closer and closer, and work for a realisation of the end at least on some small scale.

Somewhat allied to this measure of reform is the necessity for making them as much residential as possible. The students must be enabled to breathe the atmosphere of the University not only in the hours of actual instruction, but also during all the moments of their college life. The inspiration must be constant and deep enough to effect profoundly every bent of the mind and every throb of the heart. It cannot be denied that efforts have long been made in the direction, but the most discouraging voids might still be found. The disastrous consequences of the defect have been emphasised upon with special reference to Calcutta, by a distinguished educationist of the city, the Rev. Garfield Williams, in his *Indian Student and the Present Discontent*, and the situation does not seem to be much better in Bombay and Madras.

The wider introduction and improvement of hostel-accomodation is however not the only means of affording a really good training in University life. The observation has often been made that a course at the University must be more marked in its imparting to the undergraduates the polish and refinement of the true gentleman than even in the supply of information on various branches of human knowledge. And its achievements must be by paying more attention to the social aspect of our University life than Indian youths have been disposed to do in the past. Freedom of intercourse among the members of various colleges at the University Union, close touch with the professors and tutors which is possible only under a developed system of residential life in the college, and an increased consciousness, on the part of the various members of the University, of belonging to the same noble fraternity, are some of the means of achieving this and associated ends.

III

The assimilation of western culture by Indians is the end towards which our Universities have long been striving and there are two circumstances incidental to it which must receive more adequate attention than they

would seem to have in the past. Under ideal conditions the effect ought to be to enable Indian students to begin their University work in directions having an obvious bearing on their environments and national life. Every effort must be made to indianise the alien culture, to lessen the amount of artificiality which must necessarily be found when it is imparted in entirely different surroundings. The separations must be felt to the least extent possible. There must be greater attention bestowed on things Indian; the history of the land; the philosophical systems of its ancient sages which have elicited the admiration of the world; a study of political economy in special relation to the material conditions of the country; a knowledge of its constitution and administration; a more intimate touch with the social and economic conditions of other provinces—in a thousand such departments—the impulse for enquiry must be given in a more direct manner at the University itself as the best means of laying the foundation for an assimilation of western culture and its methods.

The indianising of western culture through the agencies of our Universities must necessarily remind one of another important step of reform which must also be gradually effected. The process of absolute assimilation is hindered seriously by making the Englishman in India the supreme intellectual light of the Universities, by taking it for granted that an Englishman by merely passing through the portals of a British University must excel years of scholarship, originality or any kind of superior natural endowment in the Indian. There is no doubt that this might be interpreted as a sign of national humiliation or as a badge of political inferiority. There is also no hiding of the bitter fact, that it is an injustice somewhat peculiar to the Indian educationist that while Indians could aspire to preside over His Majesty's High Courts of Judicature, take part in the highest kinds of administrative work by being members of the Governor's or Vicercy's or Secretary of State's Council or even be elevated to the position of Right Honourable members of the Privy Council, they cannot hope to rise to professorships and principalships of eminent colleges. The question is viewed here purely as grave educational evil. It must be disastrous to prevent the most cultured and gifted of our men from acquiring the valuable experience of the higher kinds of University work. It also works a negative evil in often repelling the best intellect of the country from applying itself to University work, in making brilliant young men expected to win laurels as Professors of Arts change their vocation for the more lucratitive one of the lawyer. The evil can be arrested only by opening the highest offices in the line to the Indian, as the work of assimilation could after all be most effectively discharged only by himself. The Lord Bishop of Madras is reported to have remarked in a recent speech of his at Cambridge that a great step in the wider and more permanent evangelisation of India would be the creation of an Indian Church. It might be pointed out analogically, that the assimilation of western culture will be rendered deeper and more effective in this country by allowing Indian intellect to have its full play, to be made largely responsible for the work at least in the Universities of the future.

IV

When the work of assimilation itself has not been carried out with any completeness it is probably somewhat premature to talk of widening the influence and scope of the studies of our Universities. But the ideals of progress in the two directions might at least be kept in the mind together. It is a melancholy reflection indeed that the influence which our Universities have exercised in the past, has left untouched the fairer sex. When even the percentage of literacy is discouragingly low among them there is no immediate scope for University work but the time must soon be coming for separate Halls of Learning thronged by Tennyson's 'sweet, girl-graduates in their golden hair,' who will not necessarily develop the notions of rebellion against the conventions of domestic felicity dealt with by the poet in his *Princess*. This will not certainly be understood as any desire to reproduce in the East, the Sporting Girl, or the New Woman of Europe and America, who fast threaten to obscure some of the virtues which ought to sanctify noble womanhood. It is on the other hand nothing more than the desire to unbar the gates of knowledge to a class which has been kept very far from our Universities.

It is curious that such a grave void as the absence in our Universities of any provision

for the fine arts does not seem to have attracted any general attention. The æsthetic faculty of the Indian must at present be satisfied with the training it receives in the departments of poetry and general literature. Without underrating its value, it may be pointed out that there must also be a more concrete appeal to his sense of the beautiful, some touch with music, painting and sculpture which do not at all enter at present the atmosphere of an Indian University. It is not merely the enthusiastic preachers of the gospel of art like Ruskin that testify to the elevating influence of a study of art in its various departments. The idea has been urged upon the world since the days of Plato who taught man 'to use the beauties of earth as steps along which he mounts upwards, going from one to two, and from two to all fair forms, and from fair forms to fair action.' The Indian with his constitutional leanings towards melancholy and religious speculation stands in greater need of it than the energetic and adventurous children of the West. An interest in the fine arts will relieve his habitual seriousness, and bring in a vein of real happiness and buoyancy of spirits. The Universities in the West have long had their Professors of Music and the Fine Arts and their sweet refinement must soon be introduced into the sombre routine of work in an Indian College.

To those who have studied the educational developments of Great Britain during the last three or four decades nothing could be more striking than the institution of University Extension Lectures which have met with remarkable success, in spreading the culture of the Universities among the masses. The time is probably ripe even in this country, for at least the consideration of the establishment of such Universities for the people. The benefits of the highest kinds of culture must be open even to those who do not enjoy the privilege of being undergraduates at the University. Persons who have ceased to be students, but would yet like to spare an occasional hour, morning or evening, for further education ; those who are forced to toil in humble walks of life but would grasp at opportunities for raising themselves by acquiring additional, intellectual and professional accomplishments ; the commercial classes which may also sometimes possess the leisure for study—the movements for University Extension must appeal to these varied types. They will serve in some measure to create for the average citizen of to-day the intellectual atmosphere in which, for instance, the inhabitants of ancient Athens had the privilege of moving. There are no Olive-groves of Academe at the present day where people might breathe the wisdom of philosophers without any effort on their part. Nor are masterpieces of poetry and the drama recited at periodic exhibitions of games at centres like Olympus in Greece. It is therefore to schemes of University Extension that the citizen of to-day must look for enlightment, and there must soon be organisations even in this country to enable students to carry on their education into maturer years, concurrently with the ocupations of everyday life. It is not the select community of holders of University Degrees that can bring about the progress of the nation as a whole. There must be a general awakening of the intellect of the people which must be sustained by this new class of Universities yet to spring up in this country. We cannot conclude better than by quoting the following words of Lord Morley, uttered in connection with a powerful plea for popular culture : 'What we see every day with increasing clearness is, that not only the well-being of the many, but the chances of exceptional genius, moral and intellectual in the gifted few, are highest in a society where the *average* interest, curiosity, capacity, are all highest. The moral of this for you and me is plain. We cannot like Beethoven or Handel, lift the soul by the magic of divine melody into the seventh heaven of ineffable vision and hope incommensurable ; we cannot, like Newton, weigh the far-off stars in a balance, and measure the heavings of the eternal flood ; we cannot, like Voltaire, scorch up what is cruel and false, by a word as a flame, nor like Milton, or Burke, awaken men's hearts with the note of an organ-trumpet ; we cannot, like the great saints of the churches and the great sages of the schools, add to those acquisitions of spiritual beauty and intellectual mastery which have one by one, and little by little, raised man from being no higher than the brute to be a little lower than the angels. But what we can do is by diligently seeking to extend our own opportunities to others, to help to swell that common tide, on the force and the set

of whose currents depends the prosperous voyaging of humanity.'

P. Seshadri.

[This paper was read recently before the Literary Society, Hindu High School, Triplicane.]

Hindu Mathematics.—I.

In this article I mean only to deal with the progress the ancient Hindus made in the Science of mathematics, the methods employed by them, and the operations known to them. It is not, however, my aim to trace the history of the development of their methods and operations. I shall first take up their Arithmetic, then their Algebra and and Trigonometry, and lastly their Geometry.

The earliest Hindu mathematician of whom we know anything with certainty is Aryyabhatta who was born in the year 476 A. D. at Pataliputra, the modern Patna. There were, no doubt, mathematicians who preceded Aryyabhatta, but of them we know very little or nothing at all, and this is due to the fact that they did not leave behind them any systematic work on the subject or if they did leave behind any works, those works are not extant now. The chief work of Aryyabhatta, we are acquainted with, is his *Aryyabhattiyam*. This work like all other Sanskrit works is written in verse, and it embodies only the enunciations of various rules and propositions but gives no proofs. This treatise is divided into four parts only the third part of which deals with Arithmetic, Algebra and Plane Trigonometry, the remaining three parts being devoted wholly to Astronomy and Spherical Trigonometry. With Aryyabhatta the method of *inversion* was a favourite method of solving Arithmetical problemes. He describes it thus, "Multiplication becomes division, division becomes multiplication; what was gain becomes loss, what loss, gain." The following problem from *Aryyabhattiyam* very nicely illustrates the method: "Beautiful maiden with beaming eyes, tell me, as thou understandest the right method of inversion, which is the number which multiplied by 3 then increased by $\frac{3}{4}$ of the product, divided by 7, diminished by $\frac{1}{8}$ of the quotient, multiplied by itself, diminished by 52, the square root extracted, addition of 8, and division by 10, gives the number 2?" The method consists in beginning with 2 and working backwards. Thus $2 \times 10 = 20$, $20 - 8 = 12$, $12^2 = 144$, $144 + 52 = 196$, $\sqrt{196} = 14$, $14 \times \frac{3}{2} = 21$, $21 \times 7 = 147$, $147 \times \frac{4}{7} = 84$; $84 \div 3 = 28$ which is the answer.

The next Hindu mathematician of celebrity is *Brahmagupta* who was born in the year 598 A. D. He is the author of *Brahma-sputa-Sidhanta* which was composed about the year 628. This work also like the *Aryyabhattiyam* is written in verse. Only two Chapters of this work, namely, the twelfth and the eighteenth are devoted to Arithmetic, Algebra and Geometry, the rest of the work dealing entirely with Astronomy. In Arithmetic Brahma-gupta deals mainly with the subject of *interest*, and he solved most of the problems by *the rule of three*.

During the four centuries next following the time of Brahmagupta, namely, from the eight to the eleventh, the only famous mathematicians who flourished are *Sridharacharyya* and *Padmanabha*. The former wrote a work called *Ganita-sara* and the latter wrote only on Algebra.

In the twelfth century flouished the eminent mathematician *Bhaskaracharyya* who was born in the year 114 A. D. He wrote his celebrated work *Siddhanta Siromoni* in 1150. This work too like the ones mentioned above is written in verse; but unlike those it contains explanatory notes which are in prose. The two most important chapters in the work are the *Lilavati* and the *Vija-ganita*, the first, on Arithmetic, and the second, on Algebra. There is an interesting anecdote which explains why *Bhaskaracharyya* called the chapter on Arithmetic by the name of *Lilavati*. Bhaskara was celebrated as an astrologer no less than as a mathematicialn He had a daughter named *Lilavati*. And he came to learn by his knowledge of Astrology that the event of his daughter *Lilavati* marrying would be fatal to him. "He, therefore, declined to allow her to leave his presence, but by way of consolation he not only called the first book of his work by her name, but propounded many of his problems in the form of questions addressed to her." Thus, we find in the *Lilavati*. "Lovely and dear Lilavati, whose eyes are like a fawn's, tell me what are the numbers resulting from 135

multiplied by 12. If thou be skilled in multiplication, whether by whole or by parts, whether by division or by separation of digits, tell me, auspicious damsel, what is the quotient of the product when divided by the same multiplier."

Although the Chapter called *Lilavati* deals mainly with Arithmetic still we find some rules of Algebra and Trigonometry also discussed therein. An idea can be formed of the subjects dealt with in the chapter from its table of contents, which is as follows: "System of weights and measures. Decimal numeration. The eight operations of Arithmetic, namely, addition, subtraction, multiplication, division, square, cube, square root, and cube root. Reduction of fractions to a common denominator, fractions of fractions, mixed numbers, and the eight rules applied to fractions. The *rules of cipher*, namely, $a+0=a$, $0^2=0$, $\sqrt{0}=0$, $a\div 0=\infty$ The solution of some equations treated as questions of Arithmetic. The rule of false assumption. Simultaneous equations of the first degree. Solution of a few quadric equations. Rule of three and compound rule of three, with various cases. Interest, discount, and partnership. Time of filling a cistern by several fountains. Barter. Arithmetical progressions, and sums of squares and cubes. Geometrical progressions. Problems on triangles and quadrilaterals. Approximate value of π. Some Trigonometrical formulae. Volumes of solids. Indeterminate equations of the first degree. And a few questions on combinations." From the above table it is quite evident that the *Lilavati* is almost as perfect and systematic a work on the subject of Arithmetic as any we have even at the present time. Dr. Cajori has, therefore, very rightly observed 'Both the form and spirit of the Arithmetic and Algebra of modern times are essentially Indian and not Grecian."

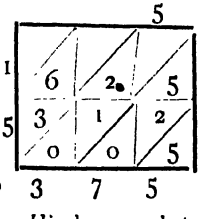
Several of the modes of operation employed by the ancient Hindus in Arithmetic however, differ considerably from the modes we now generally employ. The most interesting of these only I mean to deal with here. The ancient Hindus generally followed the motion from left to right, in addition and in multiplication as in writing. Thus in *addition* they added the left-hand columns first, and then proceeded towards the right, making corrections wherever necessary, for instance, adding 193 and 374 they would have proceeded thus: $1+3=4$, $9+7=16$ which changes 4 into 5, $3+4=7$, the sum being 567. In *multiplication* they had various methods. In multiplication of a number by another of only one digit, say 429 by 6, they proceeded thus: $4\times 6=24$, $2\times 6=12$ which changes 24 into 25, $9\times 6=54$ which changes 12 into 17. The product is thus 2574. In multiplication of a number by another of two digits or more, they first multiplied the multiplicand by the left-hand digit of the multiplier in the manner just indicated. The result so obtained was placed above the multiplicand. They then multiplied with the next digit of the of the multiplier, but the result was not place in a new row, as with us, but the first product was corrected as the process continued by erasing, when necessary, the old digits and replacing them by new ones, till finally the whole product was obtained. For instance, in multiplying, say 429 by 65, they proceeded thus, the first step being this,

2574
429
65

and the second step, this,

7885
~~2574~~
429
65

The product obtained is 27885. The Hindus had also another method of multiplication, and that was by means of squares. They divided the writing-board into squares, as shown in the adjoing figure which represents the multiplication of 625 by 15. The result is 9375. The Hindus used to test the correctness of their multiplications by "excess of 9's" as we do now.



In division the Hindus employed the method which usually goes by the name of *galley* or scratch method. The method is as follows:—Suppose 1565 is to be divided by 85 first write 85 beneath this 1565, as shown below. 85 will go into 156 only once, hence the first figure in the quotient is 1. This 1×8, *i.e.*, 8 when subtracted from 15 leaves 7. Write this 7 above the 15 and cancel the

15 and the 8 and we have as the result of the first step

$$\begin{array}{r} 7 \\ \cancel{15}65 \\ 85 \end{array} \Big(1$$

Next 5×1, *i.e.*, 5 is subtracted from 76 which leaves 71 as the result. Insert 71 and cancel the 6 and the 5, and we have as the second step

$$\begin{array}{r} 71 \\ 7\cancel{6}\cancel{5} \\ \cancel{5} \end{array} \Big(1$$

The remainder obtained after second step is this 71.

We have now to divide 715 by 85. Now 85 goes 8 times into 715. Hence the next figure in the quotient will be 8, and re-writing the divisor we have

$$\begin{array}{r} 715 \\ 85 \end{array} \Big(18$$

8×8, *i.e.*, 64 is now subtracted from 71 and 7 is got as the result. Write this 7, and cancel the 71 and the 8, and we have the following result

$$\begin{array}{r} 7 \\ 7\cancel{1}5 \\ \cancel{85} \end{array} \Big(18$$

Lastly 5×8, *i.e*, 40 is subtracted from 75 which leaves 35 as remainder, and we have as the last step

$$\begin{array}{r} 35 \\ \cancel{75} \end{array} / 18$$

The final result thus obtained is 18 as quotient and 35 as remainder.

The other methods and operations of the ancient Hindus employed in Arithmetic did not differ materially from our present methods. So far for their Arithmetic.

(*To be continued.*)

A. B. C.

Liberal Education at Harvard.

One of the great international teachers has summed up his educational theory in the following words: "To start a man on the right path is all that we can do. We expect too much of the student and we try to teach him too much. Give him good methods and a proper point of view, and all other things will be added, as his experience grows." A few years ago in his Inaugural Address at Harvard, President Lowell expressed the same point of view. He said: 'The College ought to produce not defective specialists but men intelligently well-rounded, of wide sympathies and unfettered judgment. * * * Every student ought to know in some subject what the ultimate sources of opinion are, and how they are handled by those who profess it. * * * In short, he ought, so far as in him lies, to be both broad and profound."

Since the inauguration of Mr. Lowell as the President of the Harvard University in 1907, attempts have been made to realise in practice the above idea. Before he obtained the presidential office, the educational system of Harvard was greatly similar to that of any other American University. The requirements for graduation were such as to allow students to get their degrees without a proper education. Thus a student could get his diploma by taking almost all courses in one particular subject, or even a single course in each subject; that is, he could graduate by taking courses only in History, Economics, Physics or Chemistry, or only a single course in each subject, as History, Political Science, Economics, Physics, Chemistry, Botany, Zoology, Anthropology, Architecture, Music etc. It can be easily understood how narrow and defective was this system. The University had scarcely any scientific idea of true education. There were no building regulations to guide the educational activities of the students. In other words, the University had no clear conception of of what an educated man ought to be. The student who left to his own immature judgment and understanding to plan out a scheme of study for himself, the courses being fully elective, he was free to choose what satisfied his taste or seemed to be of practical advantage to him in after life. He might choose the easiest courses and smoothly get through,

and was thus often deprived of the benefit of a sound university education.

The new regulations adopted in Harvard since 1910 have brought about a complete change in these respects. The University authorities have now clearly distinguished between the duties of the educationists and those of the students. The free scope and unlimited latitude granted to students in former years have now been greatly curtailed for the sake of a true college education. The student is no longer free in the selection of his courses. He is bound up by a well-devised scheme of study planned, so far as practicable, to turn out an all-round "gentleman." Liberal education is now the motto of Harvard. Thus reads a passage in the Official Register of the University: "Instructions in all the subjects is given under a plan which aims to secure the greatest possible freedom of opportunities for those who wish to obtain a liberal education in the arts and sciences, whether as the end of their academic training, or as a basis for further study in Divinity, Medicine, Law or the various scientific professions, such as, Engineering, Architecture, forestry etc. Each student is permitted to shape his own programme of work in accordance with the general principle that every one must take a considerable amount of work in some one field and distribute well the rest of his courses."

According to the new regulations a student must distribute his courses for the degree of A. B. or S. B. among the following groups:

I. Language, Literature, Fine arts, Music.
II. Natural Sciences.
III History, Political and Social Sciences.
IV. Philosophy and Mathematics.

To graduate a student has to take seventeen courses which he must distribute in the following manner: (1) He must concentrate his studies in one of the above four groups. In his field for specialization he must take at least six courses; (2 Out of the remaining courses six must be distributed in the remaining three groups in a way that at least one course lie in each group and three in two groups. The rest of the courses (that is, the remaining five) he may distribute as he pleases; that is, he may take all these courses from any one, two, or more groups.

It should be noticed that this scheme, though limiting the free scope of the student, does not kill individual initiative. The personal tastes and aptitudes of the student are not tampered with. The student's attention is only directed to four well-classified departments of study from each of which he must take some courses to have a sound education. Beyond this requirement, the student's personality has free play. He may specialize in any group he likes, and in that particular group he may concentrate his studies in any subject he chooses. Then in other groups, too, he has a wide scope of personal choice for there are various subjects in each group. No particular subject has been made compulsory in any of the groups besides some languages, so that a student can select courses after his own inclinations and capabilities. No one need be afraid of this system, though he may tremble at the name of History, Physics or Mathematics. He is free to take other related subjects which he may be interested in, say Economics, Biology, and philosophy. Thus this scheme leaves scope for personal variations and individual aptitudes.

The advantage of this system is that a University graduate must know something about Literature, and Natural and Social Sciences. A graduate in History under the new regulations must learn something of Physics, Chemistry or Biology, and Philosophy or Mathematics. So a graduate in Physics must learn something of History, Economics or Political Science. The would be Harvard graduate would thus be a man "intelligently well-rounded, of wide sympathies and unfettered judgment."

All-round culture, the turning out of "gentlemen" from the college who can freely and intelligently live and move about the world of which they are citizens, is the aim of education. An educated man ought to know something of everything and everything of something; but as the sphere of human knowledge has now grown unusually extensive, the true educationist of the present day should so classify his curriculla of studies that a student while going through college may have, as far as possible, a broad and liberal basis of intellectual culture. The subject of our knowledge may properly be divided into three general groups, Literature, Natural and Human Sciences. A cultivated man ought to know something of each of these. He should be able to study, at least to a certain extent, both Man and Nature amidst which he lives

and dies. 'The proper study of mankind is man; and whilst Man is wanting, all the rest remains vague, and incomplete, and aimless. By a cultivated mind, a mental training, a sound education is to be meant a state of mind by which we can become more clear of our condition, of our powers, of our duties towards our fellows, of our true happiness, by which we may become ourselves better citizens and better men—more civilized, in short. To furnish such an education is the aim of the true university. As said Aristotle, 'Education means the creation of "gentlemen" who can intelligently understand and discuss things as they come before them'. This is going to be the modern theory of university education. A few months ago President Hibben, in his Inaugural address at the Princeton University, took up this theme of education as the most important subject for the occasion, and expressed the same idea about University Education. Princeton is also up and doing in adopting her educational system to this new theory. A University graduate, to be worth the name, must have liberal culture—his knowledge must be both "broad and profound." The new scheme of studies at Harvard has been framed with this aim in view. It leaves scope both for generalisation and specialisation. Specialisation cannot, however, be carried to the furthest limit before graduation. Neither it ought to be so. Thorough specialisation is for the M. A's and the Ph. D.'s who have already had a board basis in general culture.

It may be asked why should one who has some particular interest in life care for all this liberal culture—that is, why a person who is destined for the Bar should bother about Chemistry or Philosophy which would be of no use to him in his practical life, or a student of medicine waste his time in the study of History and Literature. Is it not better that they pursue their respective lines since their entrance to the College? Can not they with better advantage take only Law and Political Science, and Biology and Chemistry respectively? Whether this view is quite correct remains yet to be seen. College education has its final utility in only disciplining the mind of the student. The facts and details which he may learn in College forsake him in his practical life—he cannot remember them. The only benefit of College education is mental discipline and this can be gained from the study of Natural as well as Human Sciences. What the student learns in the College in Law, Biology or Chemistry serves him but little in the Law and the Medical School. A student of Chemistry has not necessarily any better chances of success in the Medical School than a student who has diversified his knowledge in the college. This is also true in the case of students who go to the Law School. Recently in an explanatory address before the Freshman Class, President Lowell showed with statistical facts gathered from some Harvard graduates the truth of this statement. It may, however, be remarked that this theory would not hold in the case of Engineering students—that if the university makes such strict regulations for liberal education—it thus shuts its door against many students who want to get down into the practical field of life as early as possible. It is doubtful if it is quite so. Granted it is so, it does not tell against liberal culture in the University. We must distinguish between University education and professional or technical education. The University is not specially meant to turn out professional and technical men, but men of true culture. The turning out of mechanics and business men is the main function of the Technical School. Those who can not spend the time and the money for liberal education in the University may well join the technical school. The University has no place for them.

It may be stated in conclusion that even businessmen of the present day are gradually realising the importance of Liberal College Education in America. There are springing up Graduate Schools of Business in many parts of the country. It is believed that combined Liberal and Technical Education would increase the general efficiency of the people. Even apart from this consideration liberal culture has its own intrinsic value in the world of humanity.

HARVARD UNIVERSITY, U. S. A. BEJOY SARKAR.

SCIENCE DIVISION

The Teaching of Science—III.

The universe is to me not that circle returning to itself, that constantly self-recurring drama, that monster which devours itself but to give birth to itself again, as it was in the beginning; but it is spiritualised before my eyes and carries the stamp of the Ideal; unending progress to the more perfect in a straight line which is lost in Eternity.—Fichte "Bestimmung des Menschen."

In the first of these articles it was suggested that although few special difficulties were to be feared on the part of students in well-conducted science institutions in India, there is nevertheless a difficulty of a more practical kind. It was therein stated that the science curricula of Indian Colleges are initiated from those of Europe and are therefore governed by the economic needs of Europe and not of India.

It is to be realised that the mere introduction of an extensive system of higher scientific education goes a very little way towards the ultimate solution of the problems involved in the economic regeneration of India. To nobody more than to a teacher of science with these larger interests in view is the disparity between the knowledge of an academically trained student and the narrow range of usefulness to which it might be applied in the country, more apparent. Between the college laboratory and a sphere of practical scientific activity hereafter there is fixed a gulf the bridging over of which will require far more unity of purpose than has hitherto been the case.

The problem may be re-stated as follows: given a supply of scientifically trained graduates on the principles indicated previously, what can be done with them hereafter? The present position is extremely unsatisfactory. The best students drift into other professions such as law or into government appointments of an administrative kind where for the sake of an assured salary and pension they stifle for ever those chances of independence and initiative which alone can assure the future prosperity of India.

It is obvious that under these circumstances a very insignificant result indeed must be looked for from higher scientific education. The range of its effectiveness cannot be more than individual, that is to say, appealing only to that vanishingly small section of a section of the population which has enjoyed a college education in science. So far as the great masses of the people are concerned the effect is *nil*. A certain amount of good work may of course be done by students who take up other professions afterwards, although this depends upon the kind of training which they have received. Thus it is within the power of a scientifically, trained official in the provincial services to do an enormous amount of ameliorative work as regards the health, sanitation and so forth of the villages under his influence. But where, as is too often the case, science is taken up merely as a means of passing an examination, to be forgotten immediately afterwards, little or nothing but wasted resources is the result.

Herein lies the danger of science courses becoming too academical, too closely modelled upon those of Europe and too responsive to a certain formal standard of examinations. The universities instead of being the fruitful springs from which the intellect, the incentive and the inspiration of new India is to come, her men of ideas and her captains of industry, will remain detached from the rest of the country, isolated centres immersed in a purely artificial atmosphere.

The science institutions of India must train students to take an active part in those affairs of the country which stand most in need of scientific methods. By the extent to which they succeed in doing this must alone be gauged measure of their usefulness.

Before proceeding to indicate on what lines improvement in this respect might best be expected it is necessary to utter a word of caution against a possible misinterpretation of the above. There is a very common mistake prevalent in India that industrial regeneration can be brought about simply by building highly equipped laboratories and technical colleges. As a matter of fact it very often has precisely the opposite effect. It tends to make students *unpractical* because technical instruction, consisting in the handling of highly specialized machinery, does not develop their resources or their powers of adaptation. It is precisely these qualities which are required most in practice where the machinery to which they have been accustomed has no counterpart. There is a similar danger in almost every kind of laboratory work which is improperly conducted.

New industries cannot be *started* as a rule by technical education. A vast number of other concomitant favourable conditions are essential, governed by economic laws entirely independent of artificial stimulus or intervention.

The motive force which develops new enterprises is largely of a commercial kind, requiring the co operation of certain sections of the community with which the educationist is only indirectly concerned. All that scientific education can do is, *given* these other sources of enterprise which have brought youthful industries into being, to assist in their improvement and guide their development on scientific principles. Thus it has nearly always happened elsewhere that great undertakings have arisen from purely commercial motives ; the scientist and the technician have appeared afterwards and not before.

Bearing these restrictions in mind we must now proceed to examine the actual position in India, how best to increase the practical utility of scientific instruction in colleges.

The direction in which improvement must be looked for are, firstly, the encouragement of research work and post-graduate study in the universities, and secondly, the enlistment of the interest in scientific objects of a wider section of the public than that addressed in the colleges.

The conditions militating against the prosecution of research in the latter are many. Apart from inadequate financial resources the system of federal universities in India has contributed largely to the present position. The demands of examination and inspection work upon the time of the teachers of most repute has tended to make scientific education an examining rather than a teaching system.

Here again there are already signs of better things. It is difficult to over-estimate the importance in its bearing upon research of the new educational policy of residential Universities.

What was impossible in federated colleges will now become within the range of practice, namely, the foundation of university chairs to be occupied by specialists in particular branches of science. The recent endowment of two such chairs for Indians in the University of Calcutta discloses a desire of emulation on the part of the older universities which must fill all those interested in the future of India with this most sanguine hopes of speedy progress.

It is possible that too roseate expectations may lead to disappointment. The number of students who in undertaking several years of post graduate research may possibly sacrifice affluence in their subsequent careers will doubtless be few at first, but their value to the country will be out of all proportion to their numbers. *One* such student, who in after life may adopt some practical scientific vocation, or teach, thereby imbuing others with the high ideals of science, would be worth many hundreds of the examination crammed graduate.

The peculiar qualities developed by research, inventiveness, self-reliance, sustained and steady application are precisely those that would be required of young Indians in working out the economic salvation of their country.

The most urgent need of Indian education at present is a supply of Indian teachers trained in the manner indicated above and capable of carrying out research-work as part of their college duties. A bad teacher does an infinite amount of mischief because he infects others with false methods and ideas, and so the evil spreads *ad infinitum* ; although, of course, I do not mean necessarily by "bad teacher" a teacher who does no research-work.

As regards research-work itself, I do not mean by that epoch-making discoveries such as are reserved for the few genuises who appear from time to time in the firmament of science. There is an enormous amount of spade-work on the laborious collection of the facts of science tending to fill in gaps in our knowledge rather than to originate new lines of investigation. To those readers who are discouraged by the seemingly esoteric scope of scientific inquiry •I can offer the assurement of Kant that "there can be no geniuses in philosophy" and the words of great Newton himself, who said that he had arrived at his discoveries only because he had thought so long and deeply over them.

Their remains to discuss the question of the practical employment of the graduates whose training has been the subject of the preceding articles. It is plain that their chief sphere of activity must be the teaching profession and the limited opening afforded by Government scientific departments. It there-

fore seems highly desirable that prospects in the former should be made as favourable as possible to Indians with a view to attracting the best possible workers. Experience has shown so far that the claims of Indians who have distinguished themselves in this respect will meet with the fullest measure of recognition.

The problems connected with commercial and industrial employment are more difficult of solution, depending as they do upon a movement in the country of altogether different roots, the development of commercial enterprise.

The most obvious plan seems to be to interest the commercial classes throughout the country in the aims of science : and capitalists, large and small, so as to secure adequate financial backing for new enterprises. It must be remembered that if India is to start industries in the face of European competition, a much harder task is set before her than that which confronted the beginnings of European industrialisation. To compete with imports requires in India specialised knowledge and methods approximately approaching those of Europe in the industries concerned.

At present a beginning has been made, in some cases with success, by sending students to Europe to be trained in particular industries, but as often as not they are made unpractical because they have not been trained with reference to Indian conditions.

It is satisfactory to note that a beginning has been made by the establishment of technical colleges in India when special methods may be worked out in conformity with local needs, although better results might be looked for were they attached to efficient colleges with well-stocked libraries and laboratories.

In conclusion it may be added that proposals have already been made to enlist the co-operation of the commercial and general public with educationists in the furtherance of scientific employment in India by the establishment of an association for the advancement of science interested specially in Indian problems. It is hoped that the presence of an authoritative body of scientific opinion in India may arrest the interest of those classes to which the colleges have no direct appeal.

The writer has every faith in the ultimate realisation of the hopes which have been formed of India's social and economic betterment through the agency of western science. The world does not move, as has been supposed by pessimists, in circles of progress and retrogression where all the flowers of human endeavour carry within them the seeds of their own decay. Humanity today is higher than it ever was before, and it is destined to move on the path of ennoblement, in spite of the eddies and whirlpools of human history, "in a straight line which is lost in infinity."

India is the mistress of her own destinies, depending to a large measure upon the skill, devotion and self-sacrifice with which young Indians utilise their knowledge in the raising of their sunken fellow-countrymen to higher culture. No higher task could be set than that of assimilating the dauntless scientific spirit of the west, which has before it, not material things, but, in its highest sense, the noble ideal : *cherchez en gemissant*—"search with many sighs."

LUCKNOW. P. S. MAC. MAHON.

A CENTURY OF MODERN SCIENCE—
I. BIOLOGY.

The science of Biology is based upon the following points.

1. That no two plants or animals in nature are identical in all respects

2. That the offspring tend to inherit the peculiarities of their parents

3. That of those which come into existence only a small number reach maturity

4. That those which are on the whole best adapted to the circumstances in which they are placed are most likely to leave descendants.

These four points are found alike in vegetable and animal kingdoms; the chemical elements which take part in the drama of life are carbon, hydrogen, nitrogen, oxygen, sulphur and phosphorus with compounds of other elements as calcium iron etc.

In the plant life we find the power of assimilation of carbon dioxide in presence of sunlight by the chlorophyll of the leaves—carbon dioxide is

first decomposed into carbon and oxygen; the carbon then forms aldehydes containing the group COH and finally hydrocarbons, sugars, amides, starch glucosides, alkaloids and many other chemical substances too numerous to be detailed.

The development theory that plants and animals might originate from a parent stock and undergo variations according to the change of circumstances was enunciated by Lamarck and De Maillet. But in those times the power of the church in Europe was antagonistic to these ideas and people wrote with good deal of reservation.

Hooker, Huxley, Spencer, Wallace and Darwin are chief exponents of these views.

In Germany Goethe discovered that the cavity of the skull is a continuous development of the vertebral column and that leaves are modified into sepals, petals, flowers and seeds.

Wallace and Hooker in their explorations in the East-Indies found a vast number of plants and animals and they were struck by the similarity of their internal structures.

Variations in plants and animals depended on food, climate, habit and condition. Evidence from Paleontology or the science of fossils-animal and vegetable in their origin is sought out by different observers in different parts of the globe. The frame work of the bones is so similar in the arms of a man, the wings of a bat, the forelegs of a horse and the fins of a porpoise that naturalists were seeking that there is a hidden bond in this similarity of structures and there are typical animals and plants as the originator of different species.

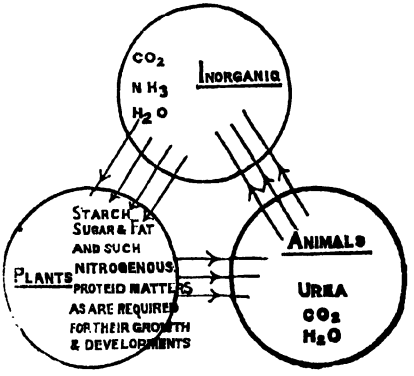
Moreover the study of Embryology i.e, development of primitive form in the embryo or womb in almost all animals and plants are alike and this has led to the support of the hypothesis. Environments modified the colour, the arrangement of organs, their development, and even their lives in certain ways.

Von-Baer discovered that embryology is the key to the laws of animal development.

Huxley and Marsh found out the genealogy of modern horse from its ancestor Plio hippus, through a large number of development up to the modern animal. Birds and reptiles came from the same origin. The idea of cell development in plants and animals was observed by a host of discoverers and they came to the conclusion that comparative embryology and Comparative Biology would go a great way in opening the secrets of life.

In 1859 Darwin's 'origin of his species' was published in which theory of evolution was propounded; he discussed the pros and cons of the theory. The idea was first promulgated by Cuvier in his Animal Kingdom in 1828.

In 1839 Schwann and Schleiden demonstrated that carbon, hydrogen oxygen water and other elements of inorganic nature are modified into starch sugar and fats in the vegetable kingdom and animals live upon vegetables converting the inorganic substances into starch sugar and such nitrogenous proteid matter as are required for their growth and development and finally in the animal Kingdom the vegetable matters are converted directly or indirectly into urea carbonic acid gas and water as the diagram will make clear.



Improved methods of observation and experiments were applied in Biological sciences. *Microscopy* greatly improved is in 1829, Lister introduced achromatic object glasses. In 1856 Wenhan binocular arrangement was introduced while Immersion lenses first suggested by Amici were carried into almost perfection by Prof. Abbe of Jena in 1882. Insects carry pollen from flower to flower and help in their fertilisation and in 1862 Darwin wrote about the fertilisation of orchids on this idea.

Flowers owe their scent colour and honey and in many cases even their thorn to the beneficia land

unconscious (?) action of the insects. Von Mohl in 1835 observed cell division and first described protoplasm in 1846.

Alternation of generation in plants was discovered by Hoffmeister and he pointed out the homologies of the reproductive processes in Moss Vascular Cryptogams, Gymnosperms and Angiosperms. Geographical Botany was taken up by Hooks and Thomson.

Economical Botany by Prof. Thistleton Diyer; at modern times details of study in Botany are much in vogue.

In 1836 Cagniard-de-la-tour & Schwann independently proved that fermentation was not a mere chemical process but due to small microscopic organisms and the science of Bacteriology originated. Some of these organisms are undoubtedly animals.

Lord Lister applied this knowledge to antiseptic surgery. The parasitic organisms are found to be the cause of many diseases and inoculation affords protection in many instances.

Fritsch and Hitzig localised the function of various parts of the brain and made important discoveries of treatment of many nervous diseases.

The history of an aesthetics:—ether was known to produce insensibility even in 1540; Nitrous oxide was used by Davy for extraction of tooth. In 1831 Sir James Simpson accidentally discovered chloroform and alleviated human suffering.

Reflex actions or actions more or less independent of the will were proved to be due to peculiar action of the nervous centre. Marshall Hall & Johannes Muller were the pioneers of this discovery. The science of Anthropology was studied from 1850 by Layard Rawlinson Botta and the science of Archeology developed excavations in different parts of the globe revealed the high antiquity of human civilization.

The idea of colour, colour blindness, and combination of colours were studied by Helmholtz & Maxwell.

Modern Physiology is mainly experimental and devotes itself to the study of details. The subject of fermentation has an interesting hearing on the problems of health and disease. Louis Pasteur found out many germs of diseases as anthrax and Pthysis and prevention of Pthisis is one of the burning questions of modern time.

The discoveries of Helmholtz & Maxwell about complementary colours binocular vision, perception of solidity as in Sir David Brewster's stereoscope, the accommodation of the optical lens are important Physico-Physiological discoveries of modern researches.

The study of Psychology from the physiological stand point: Wundt & Fechuer gave a law as to the intensity of impression or stimulus advancing in arithmetical progression, produced sensory impressions advancing the geometrical progression until insensibility results. The researches of Mr. Balfoer, Prof. Ray Lankester, Prof. Huxley and Dr. Foster in finding out the functions of the minute portions of the brain are interesting points in view. In 1842 Steen Strup wrote about alternation in generation in which two distinct types are found in the same species differing in form structure and habit and in one set males are entirely wanting and their reproduction is effected by Fission and Gemmation and that in alternate cases in each of the species.

Colours of many insects were shown to be changed by W. Weismann by application of cold or heat. Insect forms are considerably changed by such agencies. The relation between plants and insects is one of mutual advantage. Daubeny, Druper and Sachs have shewn that red light is more effective in bringing about chemical decomposition, and that blue light and the ultra violet light have the power of killing germs.

J. N. SEN.

Synthetic Rubber.

By nature men have within them the inborn disposition to employ their keenest intellect to achieve what they think best. Whenever there is a combination of the will, the ability and the opportunity, marvellous results are obtained. Chemists are always desirous of taking the function of the Nature in their own hand and prepare things which she is preparing from time immemorial. And in some cases they are miraculously successful, opening numerous fields of work to the great convenience of both the manufacturers and the consumers. The present stirring attempts among the chemists towards this direction is the preparation of synthetic rubber.

Rubber is obtained from the juice of the following chief families of trees:—Apocynaceae, Auto-carpaceae, Euphorbiaceae. The crude product contains besides fibres, wood etc. small quantities of carbohydrates inosites and its derivatives. All these can be removed by washing with water. Attempts are being made rather from the begining of the modern chemical period for the determination of the chemical composition of the rubber; numerous contributions are made on the subject by the most eminent chemists yet several things

concerning this still remain unknown. The statical formula on the basis of the best analyses made on the most highly purified products available, may most safely be accepted as $C_{10}H_{16}$, but is very likely many *times* larger. Ingenious attempts have been made to determine the molecular weight of it, unfortunately nothing has been proved conclusively. The present view on the subject is that it is a polymeric modification of terpenes having their common emperical formula C_5H_8.

The dry distillation products of rubber, technically known as caoutchoucine, used for denaturing spirits, disclosed the secrecy, how rubber can be synthesised and from what to proceed. By careful distillation, rubber under goes transformation into those elementary compounds whose polymerisation product itself is. The composition of the distillation product is given below :—

Isoprene, C_5H_8 ...	... 6·2	parts
Dipentane, $C_{10}H_{16}$ ...	... 46·0	,,
Hevene, $C_{15}H_{24}$ ...	... 17·0	,,
Polyterpenes, $(C_{10}H_{16})_n$	... 26·8	,,

From this however no inference can be drawn as to the exact chemical constitution of the India rubber, nor does it throw much light upon the mechanism of the spliting up by heat, but many facts have been guessed which rendered very successful help for the artificial preparation of the compound.

Last year the total amount of the rubber produced in the whole world is about 70,000 tons, worth about £28,000,000. This sort of high production and consumption of rubber as well as scientific curiosity lead chemists engaged in the synthesis of rubber for a long time. Now English and German chemists are simultaneously working on the field. They formed two groups one consisting of Sir William Ramsay, Prof. Perkin, Dr. Strange, Dr. Matthews, Sir William Tilden etc., the others being Prof C. Harries of Kiel, Dr. F. Hoffman of Elberfeld ; Prof. Fernbach of Pasteur Institute seems to be taking essential part in both the parties. Presently the scientific curiosity has been fully satisfied, the chemical process of preparation is quite clear. It is a well-known fact that caoutchouc can be synthesised from isoprene, a terpene like colourless hydrocarbon boiling at 35°c. Hofman has shown that rubber is fomed by the polymerisation of hydrocarbons quite similar in chemical constitution to isprene, and this transformation can be done by heating under pressure with or without anything, also Harries has found that the same can be effected by the influence of small quantity of metallic sodium. But it is very curious to note that Prof. Harries was anticipated by Dr. Matthews of the other party.

The next attempt was to prepare the article on a commercial scale to compete with the natural products. Primarily they used to start from terpentine but the idea had been abondoned on account of the high price of the starting material. In order to be commercially successful they thought of utilising cheaper materials like wood, starch, sugar, petroleum, and considering Dr. Matthews' later eventua success in preparing isoprene from acetonel and fusel oil they have finally chosen starch for their purpose, the sources of which are so numerous and which is so readily obtained. Upon this Prof. Fernbach is cooperated who has most gloriously discovered after eighteen months' laborious work, a method of fermentation by which starches can be chiefly transformed into fusel* oil and acetone. This observation as well as that of Dr. Matthews' or Dr. Harries' discovery established the foundation-stone of the future preparation of synthetic rubber on a manufacturing scale. Since the starting material is starch and processes of transformation are not so very costly, there are hopes of producing artificial rubber for the market. None of the parties however, are very confident about the commercial success in near future.

The English chemists, in this case, are more advanced than the German, and considering also the investigators engaged in, the success apparently seems to be on the English side first.

J. N. RAKSHIT

*Fusel oil occurs in our country liquor in sma quantities, and its foul odour is due to that, alcohol leaving no such unpleasant odour.

REVIEWS
AND MINOR NOTICES.

Heredity and Eugenics. By Castle, Coulter, Davenport, East and Tower. Pp. 310+plates. (Chicago: The University Press, June 1912.) Price $2·50 net.

The book is the outcome of a course of lectures on heredity and allied topics given at the University of Chicago during the summer of 1911 under the auspices of the biological departments. "The purpose of the course" as the authors declare "was to present the recent developments of knowledge in reference to variation, heredity, and evolution, and the application of this new knowledge to plant, animal and human development and improvement." "The lectures were not intended for those trained in biology, but for a general university audience, interested in the progress of genetics as a matter of information rather than that of study." When we take into consideration this and the fact that the lectures were delivered by five specialists we are glad to recommend the book to those in our country who are now taking an interest in this new and interesting subject.

Sociological Study of the Bible. By Louis Wallis. Pp. xxxv+308. (Chicago: The University Press, April 1912.) Price $1·50 net.

The book will have great value as a contribution to a really historical understanding of the Bible. Although the book largely takes the form of research into ancient history, it is in substance an enquiry into vital questions of today and in this light we take the book as an useful contribution to the Science of Sociology.

Naturalism or Idealism? By Rudolf Eucken, Professor of Philosophy in the University of Jena. English translation by Alban G. Widgery, M. A. Pp. xiii+30. (Cambridge: W. Heffer and Sons Ltd.) Price 1s net.

This is the Nobel Lecture delivered at Stockholm on March 27th, 1909. The author's name is a guarantee of the book's worth. As for the English Translation the Author has written the following note, "The problem with which my Nobel Lecture is concerned is one which in one way or another is felt so much by the whole civilized world, and life everywhere is affected so deeply by the antithesis which is implied by the problem, that an English Translation of the lecture can hardly fail to find a friendly acceptance. We live in an age in which all that is traditional has become the subject of doubt; an age in which new ideas are continually striving to obtain the guidance of our life. In a time so full of perplexities, it is the duty of each definitely to consider his attitude towards the fundamental peoblems of life, and to endeavour to give a reason for the faith that is in him."

Biblical History for Junior forms (Old Testament). By F. J. Foakse-Jackson D. D. Pp. xiv+200. (Cambridge. W. Heffer and Sons Ltd.)

The general design of the work is to form an introduction to the study of the history of the Hebrews from the narrative of the Scripture and thereby make the way to the study of bible smooth.

Voice Production with the aid of Phonetics. By Charles Macan Rice M. A., A. R. C. M. Pp. viii+88. (Cambridge: W. Heffer and Sons Ltd.) Price 1s 6d net.

The author has investigated the subject of voice production in a new fashion and has devised certain symbols which facilitate voice production and pence elocution and delivery.

Helps by the way series: (i) *Old Testament Analysed*, (ii) *Early Church History analysed* (iii) *English church History analysed.* (Cambridge, W. Heffer and Sons). Price 2s. net each.

The books in this series are not intended as substitutes for the recognised text-books, they are rather to test the results of reading to sum up the essentials of the text-book, and to prepare the student for examination day. The books are admirably lucid and, at the same time, thorough.

Problems and Exercises in British History, Volume III, Book D. By J. S. Lindsey. (Cambridge: W. Heffer and Sons). Price 4s 6d.

This series forms an entirely new departure in educational apparatus for the study and teaching of History: it is not a set of text-books, but a guide to the choice and use of text books and other historical literature.

The Stone ground ghost tales. By E. G. Swain. (Cambridge. W. Heffer and Sons). Price 3s 6d net.

The stories are compiled from the recollections of the Reverend Roland Batchel Vicar of the parish of Stone ground. They number nine and will appear full of interest to our young readers.

Junior Course of English Composition by E. W. Edmunds M. A. B. Sc., *Junior Course of English Grammar* by A. M. Walmsley M. A. (University Tutorial Press Ld.: London). Price 1s 6d each.

These books are admirably suitable to boys preparing for the Cambridge and Oxford Junior Locals.

An Introduction to Psychology. By Prof. Wilhelm Wundt, translated by Rudolf Pinter M. A., P. h. D. Pp. ix+198. (London: George Allen & Company Ltd.) Price 3s. 6d.

The volume is a popular introduction to the Wundtian psychology. It is a shorter and simpler sketch than the same author's *Outlines of Psychology* and it should prove invaluable to the English-speaking student who wishes to gain some conception of the subject before entering upon a deeper study of the same. Its popularity in Germany has been phenomenal.

Shakespeare's Plays by G. S. Gordon, M. A. (Oxford: at the Clarendon Press). Price 1s net each.

Five Plays are published viz: (i) Hamlet, (ii) Coriolanus, (iii) A midsummer-night's Dream, (iv) As you like It, (v) The Tempest. The series aims at removing the common complaint against editors of Shakespeare that they exceed their part and that by so doing they gain readers for themselves than for Shakespeare. Hence his first aim has been to gain readers for Shakespeare. The Notes, therefore, are concerned about one thing only, the meaning of the tert. The introductions too are written with more freedom. In all these editions there are decided improvement supon ordinary editions.

Oxford University Handbook, being the Nineteenth Education of the Students' Handbook revised to June 1912 (Oxford: Clarendon Press). Pp. xvi+273. Price 2s. 6d net.

An invaluable guide to all intending students to the Oxford University.

Lectures in Logic. By S. Mangesh Rau. Pp. xvi+313. Madras. Srinivasa Varadachari & Co.)

This book is intended for the Intermediate Students of the Indian Universities and comprises both the Deductive and the Inductive part of Logic. The author aims at keeping himself as nearly as possible to the Syllabus prescribed for the Intermediate Exam.

Acknowledgments:—Lecture Notes on Elementary Statics and Dynamics for Intermediate Students by Prof. J. N. Sen M. A., City Colledge, Calcutta (Calcutta: Hilton & Co.), 1s net. *Lord Ripon in India* (an Historical Reminiscence) by Nrisinha Chandra Banerjee, Training Acedemy, Monghyr, As. 6. *Coleridge's Rime of the Ancient Mariner* Edited by Rajendra Prosad M. A. and Kali Prosad Khaitan M. A. (Calcutta: S. Bhattacharyya & Co.). *Chanakya Nitysarsangraha* (in Bengali) edited by J. N. Chatterjee, Professor, Midnapur College.

SCIENCE NOTES
AND OTHER INTERESTING ITEMS.

Polarised Light

A method of detecting the presence of polarised light in the light from a sky obscured by thick clouds is described by Mr. A. E. Oxley in the July number of the *Proceedings of the Cambridge Philosophical Society*. It depends on the use of a Babinet compensator, with its principal direction set at 45. to that of the observing Nicol, and of a special rhomb in front of the compensator which allows part of the incident light to pass without change while it introduces a phase difference of $\pi/2$ into the remainder of of the beam. When the edges of this rhomb are parallel to the principal direction of the Nicol, bands are seen in the field of view even when the amount of polarised light present is too small to produce, colours in a selenite plate, and the apparatus also allows the mean plane of polarisation of the incident light to be ascertained.

New Form of Muffle Furnace

In the June Number of the *Bulletin de la Societe of Encouragement pour l'Industie nationale* M. A. Verneuil describes a form of muffle or crucible furnace suitable for laboratory work up to a temperature of 16000 C. If a crucible is to be heated, it is surrounded by a cylindrical block of refractory material which rests on a brick pillar and is provided with lid which leaves openings for the escape of the burnt gas. The gas is introduced into the space between the crucible and its surrounding cylinder by a passages which is tangential to the inner surface of the cylinder at the point of entry. By this means the jet of gas and compressed air is given a spiral form and a higher temperature is attained, while the durability of the furnace is increased. The idea of the spiral flame seems worthy of general adoption in furnace design.

Egg-tooth of Bird.

One is glad to hear something more in regard to the so-called egg-tooth of young birds, which is none the less interesting that it has nothinig to do with teeth, being simply a horny knob. If it is of use in breaking through the egg-shell, which seems in some cases at least very doubtful, it is used only once. As every one knows, it soon falls off. The fact suggests the question whether it may not be a derivative of some older structure with a different use ; for this is a common thing in organic evolution that the apparently new should arise from the very old. Some recent observations by B. Rosenstadt suggest that the egg-tooth of the upper jaw, and its corresponding vestige on the lower jaw, may be a relic of an ancient armature, older than the horny sheaths we familiar with. In the first place, the egg-tooth above and the vestige below become horny before there is any other cornification on the jaws. In the second place the process of making horn in the egg-tooth is different from that elsewhere. Each of the skin cells concerned turns wholly into horn fibres, nucleus and all, where as in ordinary cases as in the horny covering of the jaws, only the mantles of each cell is turned into horn—"Knowledge."

Human and Animal Blood

The means for the detection of human as opposed to animal blood are, as is well-known, of the greatest importance in medico-legal affairs, and lawyers in India have at different times remarked that, although methods of extreme delicacy are known to exist, the methods are not made use of in India. As a matter of fact, in 1909-10, Lieutenant-Colonel W. D. Sutherland, I. M. S., was deputed by the Government of India to carry out a research on the applicability of modern bio-chemical tests for ascertaining the origin of blood stains to medico-legal practice in India. Lieutenant-Colonel Sutherland's investigations formed the subject of a most important number of the series of scientific memoirs issued under the authority of the Government of India, and it has been considered advisable that a selected medical officer in this country should be placed in a position to carry out these bio-chemical tests, and the Government of India have deputed Colonel Sutherland to the Medical College at Calcutta with the object of training a number of selected officers in the technique of this process.

Alloys of Radium.

Messrs. de Mare and Jacobs describe the production and properties of an alloy of radium and silver in a communication to a Belgian journal which is abstracted in the *Chem. Zentrallel.* (1912, I, 1430). The new alloy, which was obtained by reducing a mixture of silver chloride and radium sulphate by means of calcium carbonate and charcoal in a gas fur[illegible]ye[illegible]ish [illegible] [illegible]ubs which was sufficiently tenacious to be drawn out into a thin wire. A deposit, possibly of the nature of an alloy, was also found to be formed upon the cathode, when a solution of radium acetate was electrolysed with platinum electrodes. The deposit was a brown substance, which was very radio-active. In connection with these investigations it was discovered that the light rays emitted by salts of radium could be transmitted through quartz plates of a certain thickness, while the α, β, and γ rays were absorbed.

The Latest Suggestion as to a Universal Language

Simultaneous with the death of Johann Martin Schleyer, who agitated Europe in the early eighties with his newly invented language, known as "Volapuk," which for a few years was lauded as the long-desired universal language, comes the announcement from America that Dr. Alexander Graham Bell is now busied with a scheme by which he hopes to make English a universal language. "World-English" he calls it. In an interview he points out that, barring spelling, there is no reason why English should not become the universal tongue. "It requires no alteration in grammar or construction to adopt it for its great function of universality," says Dr. Bell. "No language in the world could surpass it in grammatical simplicity and in general fitness to become the tongue of the universe. So why leave its spelling as a big bar to hold back its being spread? Phonologists have decided that the English language is composed of about forty sounds. We use the Roman alphabet of twenty-six letters to represent them. The inadequacy is patched over by making most of the letters do double or triple duty—cover several sounds. Hence the capriciousness of our spelling. I feel the customary reverence for our present system of writing. I feel that it has glorious associations. A complete removal of the anomalies of English writing would antiquate all our literature and be universally resisted. My idea is to have the two forms of the language used, the phonetic and the literary, the phonetic mainly for children and those whose mother-tongue is not English." Dr. Bell does not consider the spelling reforms advocated by Mr. Carnegie and the rest to be satisfactory. The international alphabet which he has in readiness is the invention of his father, the late Professor Alexander Melville Bell. The alphabet is supposed to embody the phonetic ideal, one definite letter for every sound, and one definite sound for every letter. "World English" would look enough like literal English to enable an educated person without previous study to read it. Evidently Esperantists will need to look to their laurels.

SPORTING.

CALCUTTA RUGBY TOURNAMENT.

West Ridings (Holders) *vs.* C. F. C.

The cup final at the 23rd session's Rugby tournament came off on Calcutta ground when before a large gathering of spectators the proud cup holders recorded this seventh consecutive win of the Calcutta Rugby Union Challenge Cup by beating the Calcutta F. C. By the substantial margin of 13 points (two goals and try to nil.)

We echo the sentiment of the sporting public to Calcutta when we say, that the heard-earned victory of the West Ridings, which by the way makes a record in the history of Rugby Football, was most richly deserved and not even the staunchest supporter of the Civilian team will deny "Dukes" the credit of being the most fair and consistent winners of Rugby trophies in India. Lieutenant Kidd has every reason to the proud of his men, who have just own the cup, after the greatest strain ever experienced by them in in the history of the football career. The four games they had with the Leisters last week proved a great strain and their final success has conclusively proved of what strong calibre they are made. It is this staying power that has been the secret of their success and there there is no gainsaying the fact that up to the last minute they proved themselves hot as ginger and worrying and persistent in keeping up attack. It reflects great credit on their training and we take the opportunity of offering them our sincere congratulations of their victory.

England *vs.* Scotland.

English Victory (5--0.)

This annual international fixture was played off on the Calcutta ground on Friday 20th Sept. when the Scotland team had to admit defeat by 5 points (one goal) to nil The sides were very evenly balanced and the balance of exchange was accordingly even, neither side showng any marked superiority either in pack or loose over the other. On a slushy turf and with a greasy ball, the game was practically confined to the forwards, and kick and rush became the order of the day. Barring a solitary occasion in the initial period when the Scottish took to a splendid passing about there was hardly any other brilliant combined movement throughout fifty minutes play. There was, however, no lack of dash or verve so far as forward play was concerned. Both in attack defence the teams showed up to equal advantage and there was hardly anything to choose between then.

FOOTBALL.

Allahabad, Muir Central College *vs.* Calcutta Presidency College.

The Calcutta Presidency College, football team paid a visit to Allahabad to play the premier Government College of the United Provinces on Saturday last and succeeded in lowering the colours of the local team. The game was fast and inter esting throughout and resulted in a win for the Calcutta team after a hard struggle by a narrow margin of a goal to nil.

Christian College *vs.* Students' Sporting (Allahabad)

An even draw was the result of this encounter on Tuesday last on the ground of the former. Within two years of the start the student scored through their skipper, Mitra, who receiving a pass from Choudhury beat the college custodian from close quarters. About ten minutes from the end the college equalised from the melee in front of the goal, Shamshul Huq being credited with the point. No further scores were registered and the teams retired with honours easy.

CALCUTTA. City College vs. Black Watch

The two teams met in the final round of the United Cup, when after a close game the College boys came out victorious All credit is due to the boys who made a plucky fight against the redubtable military team. College was closed one day on account of this success.

Ripon College *vs.* Belliaghat F. C.

The College boys won the Naskar Challenge Shield after defeating the Belliaghata men in the final round of the competition. The College was closed for a day on account of this victory achievod by the boys.

Cooch Behar Cup.

Mohan Bagan *vs.* Kumurtuly.

The Mohan Bagan team defeated the Kumartuli boys by the narrow margin of a goal to nil, in the final round of the above cup competition. The game was closely contested throughout.

MADRAS INTER-COLLEGIATE TOURNAMENT.

Pachiappa's College *vs.* S. P. G. High School.

The above teams met on the Engineering College Grounds. The game was devoid of interest as neither side was fully represented the absence of Mr. Edmunds for the S. P. G. and of Raghavendra Rao for the Pachiappas accounting for the somewhat dull and monotonous character of the match. The Pachaiappas secured a victory by two goals to nil.

SIMLA DURAND TOURNAMENT.

The Durand Tournament opened at Simla on Monday the 23rd September when two matches were played. The Royal West Kents beat the 3rd K. R. R. by five goals to three, and the North-Western Railway Volunteers defeated the 13th Hussars by four goal to love.

Sept 25 :--The Lancashire Fusiliers beat the Royal Irish Rifles by two goals to one and the South Lancashire Fusiliers beat the Fifth Mountain Battery by one goal to love.

Sept. 28:—Two matches were played off this afternoon on very soft ground after heavy rain. In the first. Royal Scots, beat the East Yorks by 3 goals to nil. The second game was between the West Ridings and first Connaught Rangers. Even after playing extra time none of the parties could score.

Sept. 30:--In the replay, the Connaught Rangers beat the West Riding by three goals to two. The West Kents beat the Simla Football Club by one goal to love and the Gordons tied with N.-W. Railway at love all.

Oct 1:—The Lancashire Fusiliers beat the Third Battalion, Royal Fusiliers, by four goals to love.

The Royal Scots beats the South Lancashires by one goal to love and the Connaught Rangers tied with the Royal West Kents by one goal all.

Oct 2: - The Gordons tied for the second time with the N. W. Railway, neither side scoring. In the second game the Connaught Rangers beat the Royal West Kents by one goal to love.

Oct. 3:—The drawn game between the N.-W. Railway and the Gordons was played off to-day, the Gordons winning by one goal to love. An objection has been lodged against one of the Gordons.

Oct. 5:—There was a very large gathering including the Viceroy and party, to witness the semi-finals in the Durand Tournament to-day. In the first match the Lancashire Fusiliers met their old rivals, the Gordons. The left outside of the Fusiliers had a nasty fall and had to leave the field, the Fusiliers thus losing the services of a good man. The whistle sounded before any score had been made. An extra 20 minutes was played but the game ended in a goal-less draw, one goal by the Gordons being disallowed as off-side.

The second game was between the Royal Scots and Connaught Rangers. This also ended in a goal-less draw. The draw in this and the previous game will be played off on Monday afternoon, the finals being postponed to Tuesday.

Oct. 7 : --In Replay of the semi finals the Lancshire Fusiliers beat the Gordons and Royal Scots beat Connaught Rangers after another draw.

Oct. 9 : --In the finals, the Royal Scots beat the Lanca-Fusilier by 1 goal to love.

CUTTINGS.

POSITION OF THE CLASSICAL LANGUAGES.

The main classical languages of India are Sanskrit, Arabic and Persian—the first because it is that in which (in two different forms) the ancient works of Vedic India and Hinduism are written, the second because it is that of the Koran and of the wisdom of Islam, the third because it was the polite language of India's Muhammadan conquerors and spread into society and into the courts until ousted by English. Less widely studied are Pali (the traditional classic of the Buddhists) in Burma, Pahlavi and Avesta among the Parsees of Bombay, Hebrew, Classical Armenian, Classical Tibetan. Greek and Latin.

These are the classical languages generally included in the curricuba of the various universities.

For higher work it is generally admitted that the universities have done little. Nor indeed are they in a position to do more since the colleges which are teaching bodies are seldom equipped with the full staff necessary for the complete handling of the M. A. courses and the furtherance of post graduate study. Only one university that of the Punjab has a special faculty of Oriental learning, and its success has not been conspicuous. Here and there research scholar-ships have been founded, or readers in advanced study are occasionally appointed. Government awards two scholarships of £200 a year to Indian students tenable in Europe for the pursuit of Sanskrit or arabic—the very place of their tenure a reflexior on local effort. There are some eminent names— Drs. Sir Ramakrishna Bhandarkar, Thibaut, Venis, Hara Prasad Shastri, and Horovitz. But they are few. There are some journals—the *Epigraphia India* the *Epigraphia Indo Moslemica*, *Indian Thought* the *Indian Antiquary*; the journals and proceedings of the Asiatic Societies, etc. But their issues are rare. The flame, though bright, is small ; the torch circulates among a tiny clan.

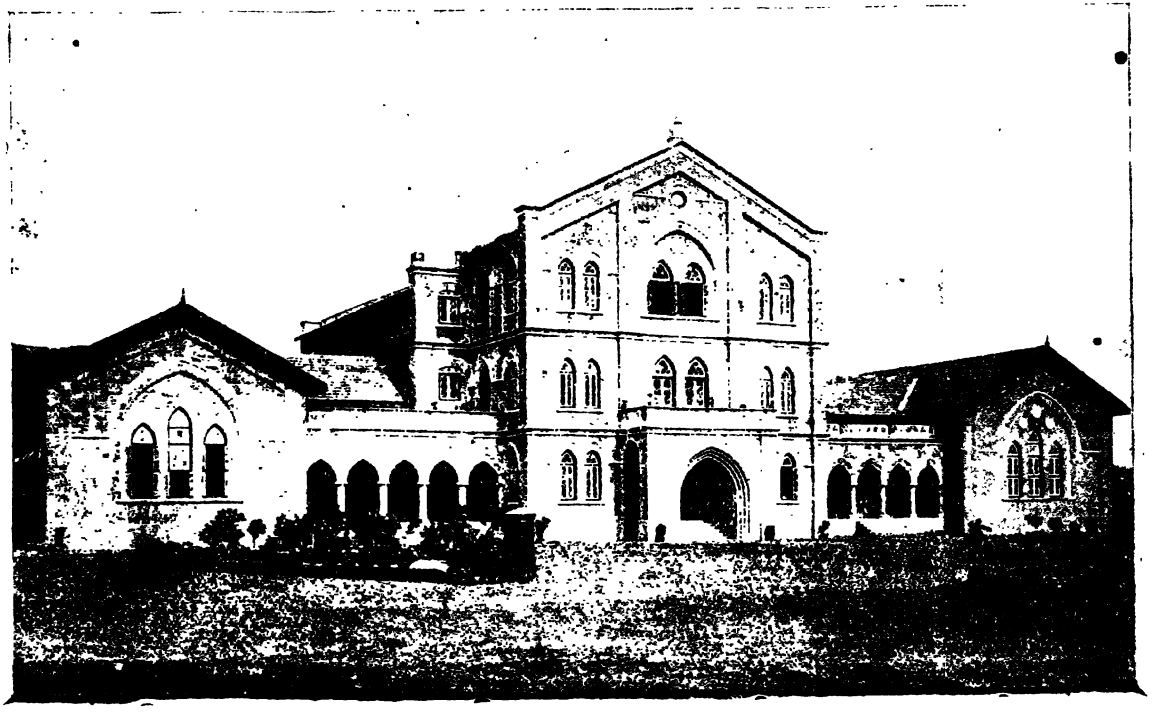
The fact is that our modern system of instruction in India is mainly utilitarian. Lord Macnalay's minute for good or ill, ushered in Western learning—not always in its most attractive forms. The adaptability of the Bengali, the struggle for service under the State quickly seconded the new doctrine. In the thirties pupils would give fees in English teaching institutions but required stipends as an inducement to resort to schools of classical learning. The villages of Bengal are no longer thick with Sanskrit tols, or those of the Punjab with indigenons Perso-Arabic institutions. The day has gone when it was said, "Persian is something and Sanskrit is something ; but what is Urdu?" Indeed at the present time even the vernaculars threaten to fall into disrepute in the larger centres. The rush is for the English school—for the education that promises employment.

Yet in this rush there are still some back-waters ; half hidden in the drab-coloured wilderness of curricula examination and diplomas there still exist some cool sequestered vales. Here and there is to be found a *pandit*—a Brahman whose pale skin and large aquiline features proclaim the strong Aryan stock—who gathers into his house, as his fathers did before him, a few pupils of like caste, who hope in time to become priests, doctors, or teachers. Or, under the shadow of the mosque, a *mianji*, who is also its *imam*, causes the youth of the village to learn by heart the *suras* of the Koran, which are needful to them as Moslems, the Persian script which will enable them to read and write Urdu and the verses of the *Karima* and such other elements of Persian as will put on them the much prized polish of some acquaintance with the French of the East. The *tols* carry on the study of Sanskrit to an advanced stage, and merge insensibly into indigenous colleges of repute, such as those of Nuddea. The Koran schools and *maktabs* are of a humbler and more democratic type. But above them are a few famous schools such as that of Deoband and the larger *madrassas*. The usual subjects of study are in Sanskrit, poetical literature, grammar, rhetoric, law (based on the code of Manu) the *Puranas*, logic, philosophy, astrology, and Ayurvedic medicine ; in Arabic and Persian, the literature and grammar of those languages rhetoric Muhammadan law and jurisprudence, logic, philosophy, theology, the traditions of the Prophet, commentaries on the Koran, and sometimes Yunani medicine.

The methods pursued in these institutions are of the old fashioned type. Knowledge is imparted in a way which appears cumbrous. English is not used, as in the universities, for the medium of instruction. Modern historical and critical methods are unknown ; epigraphy and philology play little, if any, part. The institutions themselves, often semi-religious in character have a medieval air. The scholar wanders from one to another in search of new lore or some reputed teacher. The *pandits* or *maulvis* have a look of old-world dignity ; the pupils, often of comparatively advanced age, sit with eyes glued upon their tomes. The teaching is categorical ; the proceedings leisurely, solemn, almost sacred. The aim is knowledge ; the prospect of wordly advancement shadowy. Recently the question has obtruded itself. To what end this burden of knowledge, this apparent was of energy in the bustle of modern times?

As regards the pupils themselves, the survival of the schools and their popularity within limits (they still contain between five and six hundred thousand pupils though mainly in elementary institutions) are proof that some means of livelihood are anticipated. There is need of family priests, of physicians according to the old systems, and of teachers. There is also the love of learning for its own sake which recks not of wordly goods. The discipline, whether in the *tol*, the *m anassa*, or the *hpongyi-kyang* of Burma, is of the strictest and contrasts with what is too often found in modern schools. With the small boys punishment is swift and sure. The older scholars revere the man of erudition, and in the smaller, *tols* &c, are part of his house-hold and perform for him domestic duties. As regards the institutons they preserve a tradition of high scholarship—a scholarship foreign indeed to Western ideas but on which modern research is ultimately dependent which possesses a depth and commands a respect which the university training in the classics cannot unaided, attain.

A unique assembly of Oriential scholars of India gathered together last year. One of the objects was to consider how this mass of learning (now often concealed or dissipated could be preserved, concentrated, and utilized: how India should take her place in the field of those studies which are her heritage, but in which she has been outstripped by foreign universities. On one point all the Orientalists, there present—whether European or Indian—were agreed that the old learning is indispensable and that the modern *savant* will admit that, but for the *pandit* his own achievements would have been impossible. The indigenous institution may be fostered and encouraged (as it already is to some extent) by grants, prizes, special superintendence and the bestowal of titles- But if we touch its method we at once destroy it. The practical problem now is to bridge the gulf between the old and the new learning ; to transplant, with tenderness and care the fine flower of the former, when in its own way and its own time it has reached to fullness into the harder more bracing air of the modern critical school where its petals will put on richer hues and it will yield fruit a hundred-fold The lore of the old-world scholar is passingly profound but narrow in outlook. When on it are superimposed modern methods, a wider culture, and that knowledge of modern language which shall open to its possessor, the riches of critical and philological study it may be hoped that a school will arise in India destined to break original ground in research and to the foremost in labouring for the good report of Oriental learning.—*Times* (Educational Supplement).



N. M. Wadia Amphitheatre, Fergusson College Poona. *By the Courtesy of Prof. V. G. Kale M. A.*

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VOL. III **THE COLLEGIAN** No. 2
AND PROGRESS OF INDIA

CALCUTTA, THURSDAY, OCTOBER 31, 1912

The N. M. Wadia Amphitheatre of the Poona Fergusson College

The new N. M. Wadia Amphitheatre of the Fergusson College Poona was opened by His Excellency Sir George Clarke, Governor of Bombay, on the 5th of October 1912. As the number of students in the Fergusson College gone up steadily from 263 in 1902-3 to 835 in 1911-12 the necessity of a big hall for accommodating them for gatherings and common lectures began to be keenly felt from January 1911. The idea of approaching the sympathisers of the Deccan Education Society (which maintains the College) for funds was taken up and an appeal was issued; a representation was also made to the trustees of the N. M. Wadia charities, who responded to the appeal in a liberal spirit and promised to contribute Rs. 25000 i.e. one half of the then estimated cost, and in grateful recognition of this generous help the council of the society decided to name the amphitheatre after the late Mr. N. M. Wadia. The cost according to revised estimates comes up to Rs. 70,000.

His Excellency in a very learned and eloquent speech dwelt on the good work the College is doing towards the cause of education. He drew the attention of the students to a few broad considerations in order to direct their minds into channels of inquiry which they must enter if they desire to form an independent judgment on great affairs. He dwelt on the great political problems of the world and said "the more thought and study you give to them the better for you and for your country." He concluded by quoting the words of a great Italian patriot who died for his faith 414 years ago: "Citizens, would ye be free? First of all love God; love your neighbour, love one another! Love the general welfare. And if ye have this love and union

among ye, true liberty will be yours." We join His Excellency in wishing the College an increasing sphere of usefulness. His Excellency wished that within no long period Poona will have its own University and this would give a fresh impulse to and wider scope in the advancement of higher education.

* * *

Compulsory Elementary Education in Mysore

The *Mysore Gazette Extraordinary* publishes the Elementary Education Bill to make better provision for extending elementary education in Mysore.

The following are the objects and reasons:—

The object of the Bill is to enable Government to introduce into the State as an experimental measure and in select areas a cautious system of compulsory attendance in recognized schools of children between the ages of 7 and 11. The Bill is entirely of a permissive nature. Its provisions cannot be enforced in any area until the Government have declared them to apply to such area. Satisfactory safeguards have also been provided against what might be regarded as a vexatiyus enforcement of its provisions. For instance, non-attendance may be excused on proof of reasonable cause for absence, such as *ill-health*, domestic necessity, seasonal needs of agriculture, absence of a school within a distance of one mile from the residence of the boy and so on. The susceptibilities of parents are also recognised by providing that attendance in religious classes in schools where religious instruction is imparted shall not be enforced if they object. Government may also exempt particular classes or communities from the operation of the Regulation Light penalties (viz. first a warning and then a small fine) are provided for an infraction by a parent of the provisions regarding compulsory attendance. In areas to which the Regulation has been notified to apply employment in service of children of school-going age who are not receiving instruction in a recognized school is prohibited. The Bill primarily applies to male pupils, but power is proposed to be taken to enable the Government to apply it in any area where the conditions may be suitable in respect of the attendance of girls also. The necessity of a measure of this kind has been specially felt in connection with the policy recently adopted by the State of encouraging elementary education by providing special grants for building school houses and the establishment of new schools. If a school were established in a place, but there is not a good attendance there would obviously be a waste of power and money if there were no means to compel attendance in those cases in which there is no good ground for non-attendance The Bill provides forming one or more schools Committees for conforming provisions of the Regulation. A parent who fails to send his child without lawful excuse will first be warned, then fined rupees two and in cases of repeated non compliance fine not exceeding Rs. ten. A person employing a child not receiving elementary education between age 7 and 11 will be find Rs. 10. Government may exempt particular classes or communities from operation of this Regulation. The assistant Deputy Inspector of Schools or Attendance Committee can warn parents.

The Bill will be discussed in the Representative Assembly. Thanks are due to the Government of Mysore for introducing such an Act and lovers of Native States will watch operations with keen interest. It will be no small satisfaction to the Hon'ble Mr. Gokhale to hear that Mysore has introduced his Bill after it was thrown out in the Imperial Council. The Educational Committee of the Economic Conference deserve special thanks for their labours.

* * *

The Beharee Students' Conference

At the Beharee Students' Conference held at Motiharee on the 13th and 14th of October 1912, under the presidency of Hon. Mr. Madhusudan Das, 12 resolutions were passed unanimously, the most important being—'That this Conference place on record its sense of grateful appreciation of the announcement made by Lord Crewe in the House of Lords to the effect that in pursuance of the deliberate policy of the Government of India it was contemplated to establish Universities at Patna and elsewhere and that the Conference respectfully urges upon the Government the establishment of a residential and teaching University for the new Province at an early date."

* * *

The late Prof. W. W. Skeat

A most distinguished man passes away in Professor Walter Skeat, at the age of 77. Professor Skeat was a Litt. D., LL. D., D. C. L., and Ph. D. Fellow of the British Academy, Elrington and Bosworth Professor of Anglo-Saxon, Caml idge, and Fellow of Christ's College. He was the president founder of the English Dialect Society. Prof. Skeat was the author of numerous publications. Among them may be mentioned 'Songs and Ballads of Upland,' 'Parallel Extracts from Mss. of Piers Plowman,' 'A Tale of Ludlow Castle,' 'Piers the Ploughman's Crede,' 'The Lay of Havelock,' 'Chaucer's Poems in Modern English,' 'The Proverbs of Alfred,' 'A Primer of Classical and English Philology,' 'Notes on English Etymology,' 'Complete Works of Geoffrey Chaucer,' 'The Wars of Alexander,' 'A Concise Dictionary of Middle English,' 'Shakespeare's Plutarch,' 'Specimens of English from 1394 to 1597,' 'Questions in English Literature,' etc., etc.

* * *

Industrial Education in Madras

The report on industrial education in the Madras Presidency during the year 1911-12, submitted to Government by the Superintendent of Industrial Education, records no material

improvement in respect of industrial schools, owing, it is officially stated, to the absence of a uniform and definite objective. Proposals made by various persons for the formulation of a definite industrial policy and the reorganisation of industrial schools were under the consideration of Government. The fact is that the Secretary of State's orders on the subject of the Department of Industries, threw the whole of industrial education and activities, so far as they were in the hands of Government, in utter confusion, and though now nearly two years have elapsed since the date of the abolition of the Department, the adjustments and changes in policy and details necessitated as a consequence, have not yet been made.

The number of industrial Schools, recognised and unrecognised, at the end of the year under report was 43 with 2,027 pupils as against 41 with 2,094 pupils in the previous year. The decrease in strength was especially noticeable in the case of pupils in the higher class schools, where the number fell from 1,719 in 1911 to 1,583 in 1912, the main reason being the closure of the Technical institute at Tinnevelly and the restriction of admission in the Madura Institute. There are twelve higher class industrial Schools, and we are told that the question of developing existing industrial Schools at Berhampore and Vizagapatam, in view to turning them into first class schools, will find a satisfactory solution at an early date. The majority of the schools falling under this head are Lace schools. The work done during the year is stated to have been on the whole, satisfactory. The total cost of instruction in aided industrial schools during the year was Rs. 183,089—15—1, Rs. 25,344 being contributed by Government as grant, Rs. 1,08,358-13-9 being met from sales of manufactured articles and Rs. 3 825 -5-0 from fees and the balance from the manager's contribution. The total number of Government technical scholarships allotted for industrial schools was 199. Out of these 160 were sanctioned—93 for boys and 67 for girls. The total expenditure on scholarships is Rs. 6,441. The total number of teachers employed in industrial schools was 176, of whom seventeen are Europeans; of the rest 33 possess no technical certificates at all.

* * *

Dyal Singh Library Lahore

A report and a catalogue of the Sirdar Dayal Singh Library opening ceremony vide College's of Lahore have been issued by the trustees. The late Sirdar Dayal Singh bequeathed most of the property for public purposes, the most important being the establishment of a college and a library and the carrying on of the *Tribune* newspaper founded by him. The Sirdar's will was contested and long litigation followed, and thus, it was not till several years after his death that the trustees got possession of the properties left in their charge for giving effect to the intentions of the Sirdar. When all disputes were settled, the trustees got for the library cash of Rs. 60,000 and a valuable estate. The interest on the former in the intervening years amounted to Rs. 33,314, while the estate yielded in the same period rent of Rs. 40,795. Out of the total of Rs. 1,34,109, a sum of Rs. 13,000 was paid to the heirs of the Sirdar in accordance with the terms of compromise; Rs. 5,142 was spent on the purchase of books; Rs. 3,812 on repairs and improvements in the estate, and Rs. 5,000 was paid as earnest money for the purchase of a building for the library. A reading room has been opened in connection with the library, and as might have been expected it is made large use of by the people. The trustees are seven in number, the chairman being Lala Harkishen Lal and the secretary Lala Kashi Ram. The trustees have now got nearly a lakh of rupees out of which they have earmarked Rs. 40,000 for the erection of a suitable building for the library. The books in the library treat of archæology and antiquities, anthropology and ethnology, fiction, history, literature, natural science, law, political economy, philosophy, religion, sociology, and arts.

* * *

Mahomedan Educational Conference in Arcot

The Mahomedan Educational Conference was held on Sunday the 13th October, at Vaniyambadi, an important Muslim centre in the North Arcot district. The conferenee discussed several important questions affecting the progress of primary and secondary education among the Mahomedans and urged for the provision of religious education in local, municipal and other aided schools and for the provision of separate allotments for Mahomedan education in the budgets of local bodies. The Hon. Mr. Justice Abdul Rahim later on distributed prizes to the pupils of the Madrasa-i-Islamia, Vaniyambadi, and took an opportunity to deliver a stirring exhortation to his co-religionists to make every sacrifice they could be provide suitable education to their children as their progress as a community depended so largely on their educational advancement. The Madrasa has been in existence for ten years and is being supported entirely by the Muslim community of Vaniyambadi. They have raised and spent on this institution over a lakh of rupees. In response to the appeal made at the anniversary meeting Rs. 16,000 were collected on the spot amid scenes of

wild enthusiasm ; a Gosha lady giving away her property worth Rs. 10,000 to the school.

A lady's liberality

Mrs. Mittra, widow of the late Mr. R. Mittra, Bar-at-Law has sent to the Sub-Divisional Officer, Deoghur, two cheques, one for Rs. 15,000 for the Deoghur High School, and the other for Rs. 3,500 for an operating theatre at the Deoghur Hospital. In consideration of this generous donation, both the school and the operating theatre are going to be named after Mr. Mittra.

* * *

Govt. Encouragement of literature

The Government of India and the Government of India and the Government of Bengal have purchased altogether 59 copies of "Sir Alex. Allan's Campaign in Mysore," edited with an introduction by Babu Naresh Chandra Sinha, Vakil, High Court. His Excellency the Governor of Bengal has written an autograph letter to the Editor in appreciation of his work.

* * *

Anniversary of the Geological Institute

The seventh anniversary of the Geological Institute, Calcutta, was celebrated at the Presidency College on Wednesday afternoon the 8th October 1912. Mr. H. H. Hayden, Director, Geological Survey of India, presided and there was a large attendance.

The proceedings commenced with the presentation of the report. The report showed that the work done by the Institute during the year 1911-12 was not very great. But there was a distinct improvement on the work of the previous years, both as regards the number of meetings as well as the quality of the papers read.

Mr. Hayden then addressed the meeting. He thanked the students for the honour they had done him in asking him to preside on the occasion. Dealing with the report he said it was a sermon in itself. The list of the meetings showed that they had made a great advance. They had doubled the number of meetings and in addition to that they had some extremely valuable papers read. He also liked to say a few words about the objects of the Institution, one of them being to encourage the members to explore any part of the country with which they were acquainted. This object was very important and a valuable one. Dealing with the object to encourage students to express themselves on geological subjects in their own vernacular so as to build up a scientific literature in Bengali the speaker said that it would do a great service to the students, but it would be a very difficult one. Although it would be an extremely difficult task there was no doubt that it was possible in the same way as it has been done in chemistry. Dealing with the question about the establishment of a library he expressed the hope that with the new accommodation in the new buildings their proposal would be given effect to.

* * *

Lord Carmichael's gifts to Dacca

The following is a complete list of His Excellency the Governor of Bengal's donations on the occasion of his first visit to the town of Dacca: Mitford Hospital, (Equipment Rs. 3,000; Dacca Museum, (Initial grant) Rs. 2000; Northbrook Hall Library (books and Book Cases) Rs. 500; Dacca Orphanage, (For buildings Rs. 1,000 for general purposes 1,000) Rs. 2,000; Dacca Convent, (For general purposes) Rs. 1,000; Ram Mohan Library, (For books) Rs. 250; Repairing the Becharam Deory pictures Rs. 750; Bara Katara, (For repairs) Rs. 1,000; Jagannath College, (For books Rs. 400 for sports Rs. 100)—500; Eden Girl's School Dacca, Library or other purposes approved by the Committee, Rs. 250; Madrassa Dacca, (Library) Rs. 250, (Sports) 100—Rs. 350; Dacca Collegiate School, Armanitola School, Pogose School, Ukil's Institution, K. L. Jubilee School and Imperial Seminary, (250 each, Library 200 Sports 50) Rs. 1,500; Police Training School Dacca (Library 400 Sports 100)—500; Narainganj Morgan Girl's School (for sewing machine or other purposes approved by the Committee) —150; Narainganj Hospital, (Equipment)—500; Narainganj High School (Library 200, Sports 50)—250; Sutrapur Sanskrit Tol Dacca (For the benefit of the scholars)—300; for the Mahomedan poor—Rs. 1,000; For the Hindu poor—Rs. 750; For the Christian poor—Rs. 500; For the poor connected with the Oxford Mission—Rs. 100; For the poor connected with the Baptist Mission—Rs. 100.

THE UNIVERSITIES

CALCUTTA UNIVERSITY.

Fellows

Mr. Madhusudan Das and the Rev. Thompson are nominated ordinary fellows of the Calcutta University.

Welcome back to University Delegates

At the Senate meeting held on October 5th presided over by the Vice-Chancellor, Mr. Finlay Shirras, on behalf of the Senate, moved: "That the Senate records its appreciation of the services of Dr. Denison Ross, Dr. Deba Prosad Sarbadhikari, and Dr. P. C. Roy in so ably representing the University of Calcutta at the recent Congress of the Universities in London." In doing so, he said: It is perhaps superfluous for me to add a single world either for the purpose of amplifying or explaining this resolution. We watched with interest and with no small amount of pride the able way in which Dr. Sarbadhikari and Dr. Roy represented our University, and we also followed with interest their speeches on Indian education and admired their remarks when they were referring to the resonant cause for higher education. I need not remind you, Mr. Vice-Chancellor and gentlemen, that Dr. P. C. Roy received high eulogies from the members of the Royal Society, while Dr. Deba Prosad Sarbadhikari was honoured with a degree of LL. D. of two of the most ancient Universities. In honouring our delegates they have honoured us, and it behoves us, therefore, to put on record our grateful thanks to our delegates who spent both time and money in fulfilling most satisfactorily on behalf of this University what was peculiarly a difficult task. The motion on being seconded by Dr. C. L Bose and supported by Prof. J. R. Banerji was carried with acclamation.

University Reader.

The Senate, accepting the recommendation of the Syndicate, resolved to apply to the Government of India for sanction to appoint the Rev. S. Yamakami, M.A., as University Reader to deliver a course of lectures on "Ancient India, as depicted in the writings of Chinese Pilgrims."

University Lecturer.

The Senate accepted the recommendation of the Syndicate and appointed Dr. H. De Sadow Pittard, Ph.D., as University Lecturer in Pure Mathematics for two years with effect from the current session.

A Syndicate Member.

The Fellows of the Faculty of Arts met and accepted the nomination of the Syndicate for re-electing Professor H. Stephen, M.A., as a member of the Syndicate for the remainder of the current year.

The Persian selections prescribed for the B.A. Honours Examination in 1913 have been prescribed for 1914 also.

MADRAS UNIVERSITY.

Notice of Convocation 1912

The convocation for conferring degrees will be held on the 23rd November 1912 at 4-30 p.m., candidates for degrees are requested to be in attendance at the Senate House not later than 3 p.m. They are required by the regulations to wear the gowns and hoods pertaining to their respective degrees. Any candidate who fails to appear shall be charged a fee of Rs. 10 unless he can furnish to the syndicate a sufficient reason for his non-appearance.

Election of Fellows. (i) By faculties

It is notified that Lt.-Col. H. Thompson, M.D., D.P.H., I.M.S., resigned his Fellowship, with effect from 10th June 1912, and that, under section 4 (2) of the Indian Universities Act, 1904, Lt.-Col. R. Robertson, M.B., I.M.S., will cease to be a Fellow of the University as from 29th October, 1912, and that, under section 9 (1) of the Act, the two vacancies thus created among the "Ordinary Fellows elected by the Faculties" are to be filled by an election which, by direction of His Excellency the Chancellor will take place at the Senate House, on Saturday, the 9th November 1912. In accordance with Regulation 117, the two vacancies will be filled up by the Faculty of Medicine. *In view of the provisions of section* 6(4) *of the Indian Universities Act*, 1904, *at least one of the persons to be elected shall be a person following the profession of education.* Voting papers will be furnished to each Member of the Faculty, which should be filled up and returned to the Registrar either (*a*) by the voter in person not later than 3 P.M. on the day of the election, or (*b*) by registered post so as to reach him not later than 3 P.M. on the day of the election. The scrutiny of votes will take place at 3 P.M. on Saturday,

the 9th November 1912, at the Senate House.

(ii) By Registered Graduates.

It is notified that, under section 4(2) of the Indian Universities Act, 1904 M. R. Ry. G. A. Natesan Avergal, B. A., and the Hon'ble Mr. Justice P. R. Sundara Aiyar, B.A B.L. will cease to be Fellows of the University as from 29th October 1912, and that, under section 7 (1) of the Act, the two vacancies thus created among the "Ordinary Fellows elected by Registered Graduates" are to be filled by an election which, by direction of His Excellency the Chancellor, will take place at the Senate House, on Saturday, the 9th November 1912, between the hours of 1 P.M. and 3 P.M. Only Graduates who have been registered on or before the 22nd October 1912, shall vote, and are alone eligible for election. A list of Registered Graduates will within seven days of this notification, be forwarded by the Registrar to each Registered Graduate.

SENATE MEETING, 25TH OCTOBER 1912.

Registrar

Mr. Francis Dewsbury, B.A., LL.B., was reappointed as Registrar with effect from March 27, 1913, the date on which the five years' tenure of his office expires.

Fellows

The Hon'ble Sir Harold Stuart, an ex-officio Fellow, and the recently-appointed Ordinary Fellows were assigned to the Faculties as under —Faculty of Arts : 1. The Hon'ble Sir Harold Stuart, B.A., K.C.V.O., C.S.I., I.C.S. 2. The Rev. L. Froger, M.A. 3. The Rev. A. Moffat, M. A., B.Sc., F.R.S.E 4. Rev. W. C. Penn, M.A. 5. Rao Sahib T. Ramakrishna Pillai, B.A., F.R.H.S. 6. Mr. E. Winckler, B.A. Faculty of Law : Mr. K. R. Guruswami Aiyar, B.A., B.L. Faculty of Medicine : Lieut-Col. R. H Elliot, M.D., B.S., D.Sc., F.R.C.S., L.R.C.P., D.P.H., M.P.S., I M.S.

The Syndicate recommended—

Allotment of Government of India Grants

(*a*) That the following proposals for the appropriation of the grants be adopted by the Senate—

Non-recurring grant

	Rs.
For erection of library building to accommodate the Oriental Manuscripts Library and the University Library, with lecture-rooms, etc., attached (to be supplemental to the grant of Rs. 1,50,000 from the Government of Madras ...	2,00,000
For the institution of a temporary Professorship in Indian Economics	50,000
For the purchase of books and manuscripts for the libraries (the amount to be temporarily funded) ...	1,50,000
Total	4,00 000

Recurring grants

(1) For three University Professorships in (*a*) Sanskrit, (*b*) Tamil, (*c*) Telugu, each at Rs. 750 per mensem.	27,000
(This amount to be utillized in part if found desirable, to provide the cost of necessary training before appointment to the Professorships).	
For six Pundits (two each for Sanskrit, Tamil and Telugu) at average maximum salary of Rs. 125 per mensem	9,000
For Librarian (University and Oriental Library)	6,000
For additional Library staff, travelling expenses of Pundits, cost of printing, publication and purchase of manuscripts, incidentals, etc.	4,500
(2) For courses of lectures of an advanced character by specialists from Europe and in India to be arranged, if possible, in conjunction with other Indian Universities	12,000
(3) For a University Professorship in Indian History and Archæology at a salary of Rs. 500-50-1000—initial expenditure... ...	6,000
Total	64,500

(*b*) That the proposals be subject to the reservation that the sums specified under each heading be considered approximate only, and that the whole scheme be carried into effect gradually as circumstances may permit.

Speech by the Vice Chancellor

In moving the adoption of the proposals, the Vice-Chancellor said that he had been asked by the Syndicate, as Chairman of the Committee which framed the proposals, to

move their adoption in the Senate. Therefore under the provisions of Regulation 57 which enabled the Vice-Chancellor to do so, he had accepted as it afforded him an opportunity of putting before the Senate the reasons which had actuated the Syndicate in putting forward these proposals, reasons about which there had been some misapprehension in some quarters. He said that he would like to say a few words about the delay in putting the proposals before the Senate. They were that the Government of Madras was contemplating at the time, a grant of of Rs. 1,50,000 for the erection of the University Library, and also that the question of transferring the Oriental Library was mooted. They thaught it desirable, therefore, before making any final proposals to endeavour to get these matters settled as, if the Government continued in their proposed contribution to the building, it would afford more funds for other things. They did not get back any answer from Government until early in September, and it was accompanied by the suggestions and criticisms on the Committee's schemes, which as it was definitely stated, were not the expression of the Government's final conclusions. They had carefully considered the Government memorandum and they had now prepared their full proposals and it now remained to put them before the meeting.

The second point upon which he wished to say a few words was the impression that the Syndicate wished to dispose of this matter for itself without going to the Senate, for its opinion. Until they had got the answer from Government and had framed their full proposals there was no occasion for going to the Senate ; as the Executive of the University, it was their duty to frame proposals and to lay them before the Senate at any rate, as a basis of discussion. He particularly wished to remove any idea that might prevail anywhere, that the Syndicate wished to ignore the Senate in this matter.

He would next endeavour to state as clearly and as briefly as possible the reasons which had actuated the Syndicate. The Government of India's proposition was "that the grants be used to enable the University to take a definite step forward towards the realisation of the idea of a teaching University for higher work and to improve the inspection of Colleges." The last portion of the proposition had long engaged the attention of the University, and they did not think that it required any attention from this fund. The main object of the Government of India's fund was to make a step forward toward the ideal of a teaching University. They could not of course establish "University studiorum "and Chairs in every branch of learning. They were only to make a beginning in the nature of a modern teaching University. He thought that what they would look for would be men who were engaged in advancing learning in their own particular branch and whose duties should not be too heavy to enable them to devote a great part of their time to original work. He thought also that it was generally recognised that the best and most stimulating teaching came from such Professors and that it was around such teachers that research students were best developed. If they were to have a beginning of a teaching University what they must have, he thought, were chairs held by Professors of the character he had named, Professors whose duties of tuition would occupy only but a comparatively small portion of their time. This was the case with Professors in teaching Universities all over the world.

The next difficulty was what were the professorships that they should institute by way of a beginning. Here he would like to remove a misapprehension which was somewhat prevalent. It was natural that the thoughts of the Syndicate should first turn to science. He thought he was justified in saying that the University had always been among the foremost in India in promoting the teaching of science, and that the chief work of the University, since the Act of 1904, had been devoted to improving the teaching equipment of science in the affiliated Colleges. They were far from starting with any prejudice against the cause of science, but looking at the matter from a practical point of view it appeared to them that to start a professorship of science on a proper scale, would involve the establishment of proper laboratories with proper equipment, and that would more than eat up the whole of the grant, or, at any rate, a very large part of it. They had not, unfortunately, any Palits, or Maharajas of Darbhanga, such as they had in Calcutta, to equip fully the University buildings at a cost of 8 lakhs of Rupees. They had to count upon the provision in this matter made by Government at present although, he hoped, it would not be so always. In looking at what that provision was they found that they had in the first place, one exception as regards advanced scientific study, they had the advantage of being comparatively near the Tata institute and it would be vain even to attempt to compete with it. There was also the fact that Government was incurring a much larger expenditure in the provision of proper laboratories and equipment for scientific work, as well as increasing the scientific staff of Colleges. Then there was looming in the future the building of the new Engineering College which would provide a complete electrical equipment and deal with the practical branches of scientific work. Therefore it seemed to the Syndicate that the true line of advance was not to ask Government to reduplicate this expenditure by the provision of further laboratories, such as would be necessary if the university were to undertake a practical system of general scientific teaching, but rather to hope that they would further improve the conditions of existing science teaching in existing institutions. Conditions in Madras were in no way similar to those in Calcutta, where it was mentioned to him by one of the most eminent Indian scientists, that in Calcutta the number of Honours students coming up from the mofussil was so great that no other means could be adopted, except by the University undertaking a system of direct instruction. That was a stage which had not yet been reached in Madras. While they were not able to recommend the establishment of science class, he would point out that the subject of science had not been ignored. The main object of the provision of lectures, special courses of lectures of an advanced character by specialists from Europe, was that these would enable a supplementary course in branches of science to be delivered. The courses would naturally have to be considered and arranged by the Syndicate in conjunction with the Board of study. One of the leading experts. Dr. Mitchell, had drawn up for him a large number of courses in a very short time, so that there was plenty of scope for such lectures He would also mention that the proposal to bring out special lecturers was

considered at the Universities' Congress and enquiries were made of all the Universities and almost universally favourable answers were received. It was also considered at a meeting of Indian delegates to the Universities Congress who were all in its favour. Of course, any proposal of this sort must be of an entirely tentative character, but it was almost certain that if this proposal was carried, good results would follow. The Syndicate had originally arranged for Rs. 15,000 a year to be allotted to this object, but in deference to the Government suggestion they cut it down to Rs. 12,000. It was not certain, if the scheme succeeded, that sum would be sufficient, but no doubt, the University would manage to find sufficient funds for any useful developments.

One of the Chairs proposed was a professorship in Indian economics. That was not one of the original proposals of the Syndicate. They had thought of it, but they were waiting to receive the final answer from Government. They also proposed to establish a Chair of Indian History, Archaeology. One thing they should do in making the beginnings of a teaching University was to cover ground at present unoccupied. There could be no doubt that there was ample room in Southern India for such a professor, who should be able to do valuable work.

That brought him to the most contentious portions of their proposals, and the one which had excited the most opposition, the proposed professorships in the vernaculars. He would point out that these languages were not mere "patois." They were the ancient spoken and written languages of the greater part of the population of the Presidency, and in spite of the efforts of enthusiastic gentlemen to introduce a common language into India, Hindi for instance, they would still continue to be the written and spoken language of the majority of the people, at any rate for many years to come. As elementary education spread, which elementary education would be in the vernacular, they would assume a greater importance. He had seen it suggested that there could be no useful work for the professors to do in Tamil and Telugu. They should, he thought to regard the subject from the scientific or literary point of view, as well as the practical. In that way there should be ample work for such professors. At the present day one of the chief duties in the world was the study of comparative languages. It was largely and fruitfully used in the study of comparative ethnology for tracing the real descendants of the various races of the world and in no other country is there a greater field for this study than there is in India. It is to India that Professors in this study come from all parts of the world to find purity of languages. It could not be said that there was no need for the study of Dravidian languages in the world at the present day. He thought that it was quite certain that hitherto these languages had never been studied on critical or historical or scientific lines. They were certainly worthy of such study, and it was premature to make any dogmatic assertion about them. The experiences of the University had shown that there were no well established principles on which Tamil and Telugu should be taught and with regard to the vocabularies they had found that even in this respect there were difficulties in the way of the University doing good work. He thought that there could be no doubt that their professors shou'd be able to cover a considerable field and they would find useful work to do. He wished to point out that Pundits, with all their merits and all their learning could not do the work that had to be done. They were absolutely destitute of critical or historical knowledge that would enable them to do useful work of an advanced character.

The next objection, and one that was rather widespread, was that no professor could be found to fill such a Chair. That impression struck one at first not to be well founded. He knew one gentleman who as far as he could see was ready to fill one of these Chairs now, owing to the extensive training he had undergone in European Universities. Then there was the suggestion that promising graduates should be sent home and trained. There was no objection to that except the one, that they were unwilling to go. It was very difficult to get the most promising students to go to Europe to get the necessary training but that might not prove to be an insuperable obstacle. Another suggestion was made to him on this subject, that a promising young Sanskrit student, after being trained at the Sanskrit School at Paris would very soon be able to come out and fill the Chair. Their proposal was to establish a Chair in each of the two most widely spoken languages of the province. Their next proposal was to establish a Chair in Sanskrit. It was obvious that in any fully equipped Indian University Sanskrit studies might be assured to form a necessary feature. He would point out that they could not hope that Sanskrit studies would be satisfactorily performed so long as they were in the hands of Pundits, whose aid may be of the greatest use under proper guidance and direction but who themselves were not up to modern standards. Here he felt bound to apologise to Mr. Justice Abdur Rahim as they had not been able to establish a Professorship in Arabic or Persian. Not that they had neglected the wealth of literature that was to be found in those great languages. He had now gone through the whole of these proposals. Mr. Hunter had an amendment to the Sanskrit and Vernacular Professorships. For Sanskrit scholarships the Syndicate thought that it should be left to the committee which was dealing with vernaculars to make alterations in consultation with the Syndicate. It was obvious that the establishment of the professors, if sanctioned, would be a great advantage. It would be desirable to proceed cautiously, and with all the assistance which they could obtain. Most of the amendments of which notice had been given would really be covered by Mr. Hunter's amendment. Mr. Krishnasamy Iyengar would devote most of the money to studentships in research and scolarships. The only reason why the Syndicate had not made further proposals for the establishment of research student ships, was that the research-studentships which had already been instituted had not attracted the students as had been anticipated but there was a considerable sum which was being devoted to that purpose already. They hoped to be able to deal with it on more successful lines. He had now gone through most of the proposals of the Syndicate, and needed say very little about the suggestion for the erection of the new Library to include the University and Oriental Manuscript Libraries. He suggested that, as some of the proposals were more contentious than others, they might take the less contentious

men in this Presidency and he hoped that such me would with due encouragement be found to imitate the most important munificence that had been found elsewhere, and would endow the University with further Chairs which would enable it, more fully, to realise the ideal of a teaching University.

There being difference of opinions regarding the proposals the Senate went into committee and the meeting was adjourned.

List awards made by the Syndicate :—

1. The Sri Goday Vari Sanskrit Prize—Desikan, K. S. (B. A., Sanskrit.) Presidency College, Madras. 2. The Norton Prize—Qadir Hussin Khan (M. A. Political Economy.) Madras Christian College, Nizama College and Private study. 3. The Jagirdar of Arni Gold Medals—Subrahmanyam, S. (B. A., II-A.) Presidency College, Madras, Balasubrahmanyan, K. (B. A., II-B.) Presidency College, Madras. 5. The T. Rama Rau Gold Medal—Narayana Pillai, N. (B. A. English) Maharajah's College, Trivandrum. 6. The Miller Gold Medal—Kesavan, Anantanarayana (B. A., IV) Presidency College, Madras. 7. The Pitri Muniswami Chetti Garu Gold Medal Seshu Aiyar, E. R. (B. A., I) Presidency College, Madras. 8. The Christian College Medal Venkatesa Aiyangar, Masti (B. A., English) Central College, Bangolore. 9. The Raja Sir Ramaswami Medal—Ranga Aiyangar, K. V. (B. A., Political Economy) Presidency College, Madras. 10. The Northwick Prize—Ananta Aiyar, Tarakad (A. B. A. V) Presidency College Madras. 11. The Marsh Prize—Seshu Aiyar, E. R. (B. A., I) Presidency College, Madras. 12. The Caithness Prize—Fernandes, Aloysius (B. A., III-C.) Presidency College Madras. 13. The General Macdonald Gold Medal—Suryanarayana, Tenneti B. A., English) Government College, Rajahmundry. 14. The Fischer Gold Medal—Minakshisundaram, M. S. (Intermediate Group I Mathamtics), American College, Maduar. 15. The Jubilee Gold Medal—Poonen, T. I. (B. A., English) Madras Christian College. 16. The Grigg Memorial Medal—Ratnam, A.B.A., English) Presidency College, Madras. 17. The Rao Bahadur M. A. Singarachariyar Prize—Seshachala Aiyar, Brahmadesam C. (M. A. English. Christian College. 18. The Kerala Verma Medal—Thomas E. Thomas (B. A., Malayalam) Madras Christian College. Varghese, A. (B. A., Malayalam) St. Joseph's College, Trichinopoly. 19. Hajee Budan Prize—Abdul Jabber, Chittaldroog (B. A., Urdu) Central College, Bangalore. 20. The Palney Andy Medal—Ganapati Aiyar, Ellapulli V. (B.A.,Botany Presidency College, Madras. 21. The Bysani Madhava Chetti Gold Medal—Desikan, K. S. (B. A., Sanskrit) Presidency College, Madras. 22. The Raja of Bobbili Gold Medal—Suryanarayana, H. (B. A., Telugu) Presidency College, Madras. 33. The Kerala Varma Jubilee Gold Medal —Krishnan, P. Ramswami (M. A., Sanskrit) Presidency College Madras and Private study. 24. The Prince of Wales Medal. Desikan, K. S. & Subrahmanyan, (B.A.,Sanskrit) Presidency College, Madras & S. P. G. College, Trichinopoly. 25. The Cromarty Prize—Viswanathan, P. S. (B. A., Geology) Presidency College. 26. The Cardozo Prize — Venkatesa Aiyangar, Masti (B. A., English) Central College, Bangalore. 27. The Stuart Prize—Appukuttan Eradi, Kachailil & Sadasiva Aiyar, M. R. (M.A., I.) Presidency College, Madras and Private study. 28. The Samuel Satyanathan Memorial Medal—Kasavan, Anantanarayana and Job, George V. (B.A., Ethics) Presidency College, Madras, & Madras Christian College. 29. The Carmichael Prize —Chenchaiya, Pandipeddi (M.L., Br. III.) Law College, Madras. 30. The Innes Prize—Chenchaiya, Pandipeddi (M.L., Br. III.) Law College Madras. 31. The Hobart Prize—Muhammad Abdul Allam (L.M. and S.) Madras Medical College. 32. The Rao Bahadur Subbarayachariyar Meda—lParthasarathi, K.(B. E. Civil) College of Engineering. 33. The J. A. Jones Prize—Parthasarathi, K. (B.E. Civil-Hydraulic) College of Engineering. 34. The Sir V. Bhashyam Aiyangar Gold Medal—Krishnan V. (B. L. Hindu Law) Law College, Madras.

PUNJAB UNIVERSITY.

Vice-Chancellor

The Rev. Dr. Ewing, Principal, Christian College, Lahore, has been reappointed Vice-Chancellor of the Punjab University on the expiry of his former term.

Allotment of Impenial Grants

The following proposals of the Syndicate of the Punjab University are understood to have been approved by the Government.

"The expenditure of the non-recurring grant of two lakhs includes—Rs. 12,000 for University out buildings, Rs. 50,000 for suitable buildings for the Oriental College, Rs. 12,000 residence for Assistant Registrar, Rs. 10,000 for the improvement and fencing of the Univesity athletic ground ; Rs. 1,76,000 for hostels for 250 students of the Law and Oriental Colleges. The above proposals involve an expenditure of Rs. 2,60,000 and the Syndicate have resolved that the balance of Rs. 60,000 be met from the University Building Fund.

As regards the recurring grant of Rs. 35,000 the Syndicate have recommended the establishment of two lectureships, the appointments to be held by specialists from the West or from India, who should lecture during the cold weather. The estimated annual cost of these lectureships is Rs. 20,000. The invitation of the Madras University to co-operate in a similar scheme was not accepted, because it would not be possible for the same lecturer to be moving between Madras and Lahore during the cold weather. It is probable that the Allahabad and the Punjab Universities will co-operate with each other, as in this case the distance is not prohibitive. The proposal also includes an allotment of Rs. 12,000 for the payment of adequate salaries to well-qualified Professors of Sanskrit and Arabic for the Oriental College, and the establishment of an Appointments Board, whose duties would resemble those of similar Boards at Oxford and Cambridge. The additional expenditure over Rs. 3,000 thus provided for will be met from current University funds."

A Correction

In our last issue (No. 1 October 1912) on page 8, in the tabuated list of results of the I. A. Examination, 1912, under Khalsa College, *for* 20 (in second div.) *read* 21.

ALLAHABAD UNIVERSITY.

Convocation

The annual convocation for conferring degrees will be held at the Senate House, Allahabad on the 16th of November 1912.

Affiliations

It is notified that the Government has been pleased to sanction the affiliation to this University of the undermentioned colleges, up to the standard noted against each :—1. King George's Medical College, Lucknow, in the subjects for the First Examination for the Degree of M. B., B. S., with effect from the 14th March 1912. 2. Meerut College, Meerut, in commerce, with effect from July 1912. 3. Christian College, Allahabad, up to the B Sc. standard in Biology, extension for one year with effect from July 1912.

THE COLLEGES AND SCHOOLS

Bengal Colleges

The Bengal Colleges are enjoying the Pujah Vacation from about the middle of October to the middle of November, 1912.

Rangoon College

The Secretary of State has sanctioned the appointment of a Second Professor of English in the Indian Educational Service for the Rangoon College. The new Professor, who will be selected in England, is expected to arrive in November. The superior staff of the College in the Indian Educational Service will now consist of a Principal and six Professors, one of Chemistry, one of Physics, one of Philosophy, one of English and History, and two of English.

Madras Presidency College

A party of students from the Madras Presidency College, in charge of their lecturer, Mr. H. Narayan Rao, M. A., had an excursion at Quilon. Under instructions from the Travancore Durbar, Mr. E. Masilamany, the State Geologist, is accompanying them through the State. The first place visited was Pachipara, where they were shown the great engineering project in connection with Kodayar irrigation scheme, the ore formations near Arumanallore, the raised beach at Cape Comorin, the magnificent cliffs at Warkalay showing sedimentary formations etc.

St. John's College (Jaffna) Boarders' Union

The third anniversary of this union was celebrated on Tuesday the 8th October. In response to invitations several friends and well-wishers from the town and suburbs graced the occasion with their presence. The Principal and Mrs. Thomson were at home from 3 to 6 P. M. and entertained the visitors with light refreshments. The Circus Band was in attendance from 6 P. M. making the occasion more enjoyable by their sweet selections. The "At Home" as immediately followed by a football match between the College team and Town club, which ended in a draw. At 6-30 P. M. there was the third annual meeting of the Union in the College Hall. Mr. D. S. Seevaratnam, the President of the Union, was on a platform with Doctor Handy and Rev. J. Thomson on either side. There were very interesting speeches interspersed by songs and recitations. S. K. Appadurai made an opening speech welcoming the large number of ladies and gentlemen present. This was followed by the reading of the report by the Secretary. Then Mr. J. N. Sandrasegra made an interesting speech and commended the Union for paying attention to the vernaculars. Mr. C. M. Perumalpillai interested the audience with a humorous speech and gave certain prescribed methods for making wise governors of homes and good housewives out of the boys and girls of today. Dr. Handy spoke of the progress that the College had made during the last quarter of a century. He said that Ceylon was ripe for a university as there were 80 per cent more materials in Ceylon than at Hongkong. He specially emphasised the crying need of Ceylon as being not efficiency or intelligence but public-spiritedness and concerted action. Rev. Giles G. Brown, Principal of Jaffna College, thanked the committee for having afforded him an opportunity to spend a pleasant evening. He said that he was a strong believer in the work of a well-managed Union. Then the Principal in a humorous speech thanked all present. After this the President also thanked all present for their encouraging presence and said that the advantage derived by the Union would be much greater after the opening of the new library. The assembly broke up at 7-30 after singing the national anthem.

Rajkumar College Rajkot

Mr. C. Mayne, M.A., Principal Rajkumar College, leaves here for England on combined leave and furlough and will return in the beginning of November 1913. Mr. Mayne has been at the College for over ten years and some of his pupils are ruling Chiefs. His amiable disposition has won him many friends among the chiefs and aristocracy of his province. The annual Old Boys' gathering and the Old Boys' Club are evidence of his great popularity. Several ruling chiefs have shown their regard for him in various ways and arranged informal little farewell parties in his honor. The College staff entertained him at dinner when Khan Saheb R. D. Patel proposed his health in eloquent terms and wished him bon voyage and a happy holiday. The staff and the Kumars gave him a farewell tea party. Mr. Turner will act for him as Principal, as he had done the last time when Mr. Mayne had gone on furlough.

Grasia College Gondal State

The annual sports of the Grassia College, Gondal State, were held in the spacious College grounds, on the 30th September 1912, by 4-30 P.M.; the grounds presented a gay appearance. The spectators numbered about a thousand. His Highness Shri Bhagvatsinhjee G. C. I. E., and Kumaris Shri Bakuverva and Leilaba graced the occasion by their presence from the beginning to the end. The prizes, seventy-six in number, were given away by Princess Bakuverba. The State band was in attendance. The Grassia College, Gondal, is the only institution of its kind, which is run on the lines of Eton. The institution is very well equipped. The building which cost about 4 lakhs is a spacious one built of black and white stones and contains the School and the boarding. It costs a student Rs. 300 per annum only, which is very little as compared to the care, comfort and tutition which are provided by the College. Gondal State contributes about Rs. 10,000 per annum to make up the deficit. It speaks well for the reputation of the College that parents have been sending boys to this institution not only from all parts of India, but also from Africa and even Europe. Distinguished visitors like H. H. the Gaekwar of Baroda, H. H. the Maharaja of Bhavnagar and H. H. the Thakor Sahib of Limbdi have given scholarships and Lord Northbrook has endowed a sum, out of which

a gold medal is given yearly for efficiency in experimental science ; and all the Governors of Bombay from Lord Sandhurst to Sir George Clarke have spoken in high and appreciating terms about the working and management of this institution.

Fergusson College Poona

The editor of the Fergusson College Magazine writes :—We are happy to announce another substantial addition to the endowment fund. Mr. Narayan Balkrishna Brahme, retired Sub Judge, has offered to the Society Rs. 15,000 for founding four scholarships of the monthly value of Rs. 10, and one prize of the annual value of Rs. 45 in the Fergusson College. Though the scholarships are meant for poor and deserving Rigvedi Deshastha Brahman students in the first instance, it will be a great help to the general funds of the College. As the number of students is increasing every year it is necessary to set apart a larger and larger amount for scholarships in each succeeding budget. Such endowments set free our funds for other purposes and are a great relief to the finances of the College. A large number of distinguished visitors visited the College during this term. Among them may be mentioned the Hon. Sir Richard Lamb, Member of Council, the Hon. C. A. Hill, Member of Council, the Hon. Lallubhai Samaldas, the Hon. Sir Vithaldas D. Thakersey, Mr. M. Vishweshwar Aiyya, the Secretary to Mysore Government in the P. W. D., the Hon. Justice Shah Din of the Punjab Chief Court, Mr. William Archer, the well-known literary and art critic and the translator of Ibsen's works, R. B. R. R. Thakur, Sessions Judge, Nagpur, the Hon. the Chief of Ichalkaranji, the Chief of Miraj, Mr. H. A. Wadia, Bar-at-law, the Hon. Mr. R. P. Karandikar, Dr. Suraj-ul-Hasan, the Director of Public Instruction, Hyderabad, the Hon. Sir Harcourt Butler, Educational Member of the Supreme Council (in honour of whose visit the College was given a half-holiday).

St. Stephen's College Delhi

Mr. C. Sharpe, M.A., a professor of the St. Sthephen's College, Delhi who was formerly professor for two years, has returned from England and joined the staff of the College. The College has now about 180 students on its rolls, 50 of whom have entered for their first year. The principal, Mr. S. K. Rudra, M.A., is now in E ngland, and Mr. F. J. Western, M.A., assisted by a full staff, which has been augmented by two fresh European Professors, is carrying on the work. Two new branch hostels have been opened in the Civil Lines. The College play-ground, which was formerly in a bad state owing to the Durbar, has been set right, and football, hockey, cricket and tennis are now in full swing. A very successful year's work is anticipated.

Islamia College H stel

The "Anjuman Himayat Islam," Lahore, has received from the Punjab Government a promise of Rs. 25,000 towards the completion of the Rivaz Hostel of the Islamia College Lah

Dyal Singh Library Lahore

The opening ceremony of the Dyal Singh Library took place on the 19th of October 1912 when Principal T.L. Vaswani, M. A., delivered the following speech :—

"Before begining that which I am to say may I be allowed to state that I never saw the Great Sardar whose name is worthily associated with this Instruction. Some there be in our midst who saw and loved the living man who knew what hopes he treasured, what dreams he dreamt, what aspirations he breathed what efforts he put forth for the uplift of this land. I know a little of him only through his works and through the reports concerning him. It is true to say that his portrait is painted on his Institutions not the least of them being this Library.

Charles Lamb used a beautiful expression, *the sanity of true genius.* And I have thought of Sardar Dyal Singh as a man who had the sanity of true genius. His name must be associated not alone with this Library, not alone with the College but with a great movement, *the movement of intellectual emancipation* in the Punjab.

Victor Hugo says :—"A LIBRARY IMPLIES AN ACT OF FAITH."

What was the act of faith of the Great Sardar? The Sardar believed in the *power of culture.* He believed in what an eminent English thinker of today has called the Gospel of the wider outlook, and as you begin to survey the situation of India do you not find that the root problem is the problem relating to culture, or education? Over and over

again have I felt that all efforts in different departments, industrial, social and religious will fail, if our work does not rest on the basis of culture quickened by the spirit of faith, for the India of the future shall be the India such as may be shaped by those who are young today. The young men of today are the leaders of tomorrow and so if we really desire to give a new uplift to the land we ought to make an endeavour to see that our young men have a wide outlook upon the problem of life. The Great Sardar had faith in the power of culture and the power of education. The most striking illustration of this power of culture is supplied to us by the Germany of the 19th Century. Germany was crestfallen: she had suffered at the hands of Napolean. Then appeared in Germany some of the greatest thinkers of the modern world; these thinkers felt that if Germany was to rise, special care must be taken of the young. Efforts were made to build a great organisation based on culture. New ideas of the supreme reality of the State and the supreme importance of effort took hold of the minds of the young men through the University and in a short time Germany became great and strong and vigorous. Today it is true that Germany is immersed in practical pursuits, but remember Germany values educational institutions very much. It seems to me that education is the foundation of national prosperity. The great Sardar realised the value of religious culture. He desired to initiate a movement of progressive and intellectual emancipation. It has been said that in ancient Egypt libraries were dedicated to certain deities. May I not say that this Library is dedicated to *the sacred cause of religious culture*. And if I were to express in one sentence what appears to me the controlling ideal of this institution I would do it in some such words as these. The ideal of this institution is to develop susceptibility to truth and goodness.

What is truth? is the question which is raised by the great German poet Goethe, and he tells us that love of truth shows itself in this that a man secures and assimilates truth from whatever quarter it may come. I am sure the great Sardar believed that truth must be sought in East and West. I do think that the Sardar was a devout believer—as I am a devout believer in the higher harmony of East and West. And it is in the fitness of things that an eminent representative in our midst—of the culture and piety of the West—should preside at this meeting to pay homage to the great memory. The great Sardar felt that East and West must be reconciled; he believed that the West could help the East in reconstructing theology, in assimilating the methods of the modern scientific research, and the ideal of social efficiency. Not less fervently did he believe that the East could help the West in deepening and developing that inner-God-consciousness which is the secret of the nobler types of Religion.

Libraries are not made they grow: and I trust this Library will grow from more to more grow in popularity, grow in the power of culture quickened by faith. I trust that this house will be not simply a workshop of Scholars but also a centre of soul-culture. The great Sardar has shown how to transform money into power, the lifting power of the land. He gave his all for the good of the social whole. His institutions—this one included—are a call to us—to each one of us—to the service of man. For each one of us can do something to raise and uplift: the larger resources of the Sardar are not *ours*: but we can do service in small things,—in little act of kindness and little deeds of love. The Sardar's spirit of sympathy and love and hope and helpfulness we can pour upon our dealings with all, and we too may know that the highest truth of life is the joy and glory of *unselfish service*. Of that unselfish service the late Sardar's life is a shining illustration: on every stone of this Institution may be writ in large and luminous words: *unselfish service*. And may there ever be in Lahore loving hearts and loving hands to pay homage to the Great memory! and may the numbers multiply of those who seek the treasures of knowledge within the halls of this Institution! and may the Dyal Singh Library be blessed unto the glory of God and the honour of this ancient land."

Sri Pratap College Srinagar

Pandit Vanamali Vedantatirtha, M.A., late of the Cotton College Gauhati, Assam, has become the Principal, the College was originally founded and maintained by Mrs. Besant of the Central Hindu College, Benares, but has recently been taken up by the State. It is situated in one of the best localities of

India, and it may attract students from outside in near future.

There is a strong rumour that science classes will be opened next year, teaching up to the Bachelor Standard.

Their Excellencies Lord and Lady Hardinge visited the Sri Pratap College, Srinagar, on the 13th October last. The route from the Residency to the College was lined by students of the different state schools, who cheered their Excellencies lustily as they drove to the College.

Their Excellencies and party arrived at the College at 2-40 P.M., and were received at the gate by Dewan Amarnath, C.I.E., Chief minister, Rai Bahadur Dr. A. Mitra, Home and Education Minister and Mr. V. Chakravarti, Principal of the College.

The porch and the Hall were most tastefully and gorgeously decorated with curtains embroidered with exquisite Kashmiri works and with precious shawls of the costliest kind to be had in Kashmir.

Dr. A. Mitra read an address and handed it over to the Viceroy in a beautiful casket, embroidered with fine *chinar* leaves.

His Excellency said in reply that he was particularly pleased to see so many students receiving their education in the City. He was especially struck with one of the mottos—"Loyalty and Learning". "There is nothing like Loyalty," said His Excellency "there is nothing like Learning". He was very pleased that religious instruction is imparted to the students in their own faith for there could be no character without religion and no education without character.

Then Dr. A. Mitra read a letter from His Highness the Maharaja Sahab Bahadur in which he offered a gold medal called the "Hardinge Medal" to be offered to the best student of the College annually.

After this Dr. Mitra called for three cheers for their Excellencies, and the spacious Hall resounded with sound of Hurrah.

Then Dr. Mitra and Mr. Chakravarti conducted their Excellencies to their Motor Car. While leaving, His Excellency was pleased to offer a Cup for a Football Tournament to be competed for by the students.

Reid Christian College Lucknow

The Alumni Association of the Reid Christian College, Lucknow, met on the 17th, 18th and 19th October, 1912. The old boys' dinner took place on the evening of 17th, a lecture by Bishop William P. Eveland, D. D., and business session on the 18th and a cricket match, 'Old' *versus* 'New,' on the 19th. All 'old boys' of the college who are members of the association were invited to participate in all the functions of the association.

Agra College

Mr. Shri Shridhar Nehru, an ex-student of Agra College is reported to have passed the last Civil Service examination. He is the second student of Agra College who has distinguished himself in the above examination, the first Mr. Panna Lal (Joint Magistrate Moradabad.) On behalf of the College students the principal has sent a congratulatory letter to his father Mr. Bansi Dhar Nehru, retired Sub-Judge.

THE HINDU UNIVERSITY

Funds

The total sum collected up to 25th October 1912 is nearly Rs. 17,18,000. The Maharaja of Kashmir has sanctioned an annual permanent grant of Rs. 12,000 in aid of the University.

Executive Committee

Seth Narottam Morarji Gokuldas, Sheriff of Bombay, Sardar Daljit Singh of Jullundur, the Hon'ble Mr. Shadilal of Lahore and the Hon'ble Pandit Motilal Nehru of Allahabad have been elected on the Executive Committee.

Constitution

A revised constitution has been drafted on the lines of the constitutions of the Universities of Manchester, Sheffield and Birmingham and the proposed Aligarh University. Special provision is made for the representation on the Governing Body of the University of the Jain and Sikh religions and for instruction in those faiths.

EDUCATION ABROAD.

UNIVERSITY OF PENNSYLVANIA, U.S.A.

Opening of 173rd year

The formal opening of the University of Pennsylvania on Friday, Sept. 27th marked the beginning of its 173rd year. Students from every part of the world have been slowly gathering on the campus for the ten days preceding, and next week the dormitories and numerous boarding houses in the vicinity of the University were teeming with student life. The principal exercises were held in the Gymnasium on Friday morning, September 27th, at ten o'clock. After a brief chapel service Provost Edgar F. Smith delivered the annual opening address, followed by announcements by the Deans of the various departments. In the evening the Christian Association entertained all first-year men at a reception given in Weightman Hall, and on the same evening, in the auditorium of the Huston Club, the School of Accounts and Finance had its formal opening exercises, when Dr. James T. Young addressed the students on "The Relation of Government to the Business Man." The Graduate School held its formal opening on Thursday afternoon, October 3rd, at 3-30 o'clock, in the Houston Hall auditorium. Prof. John C. Rolfe delivered an address on "Research in Classical Philology." While the authorities do not anticipate any appreciable increase in the total number of students over last year, there is every indication that the number of men entering the first-year classes will exceed that of last year, the grand total being diminished by the small incoming classes of some of the departments in the last three years,—notably that of the Medical School, the standard for admission to which is now as high as any in the world.

Changes in Faculty

The principal change is the division of the old College Department into three distinct schools, with a separate dean and faculty for each, viz: The Wharton School of Finance and Commerce, of which Dr. Roswell C. McCrea has been appointed Dean: The Towne Scientific School, of which Dr. John Frazer has been made Dean, this School includes the Civil, Electrical, Mechanical, Chemical and Chemical Engineering departments, and the School of Architecture; The College, of which Dr. Arthur Hobson Quinn was appointed Dean, Dr. George E. Fisher, the former Dean of the old College Department having resigned and being now on a year's leave of absence. The College Department will include all the academic courses, the Summer School and Teachers' Courses. There were also two new professors appointed to fill the vacancies caused by the deaths of Dr. Thomas H. Montgomery, Professor of Zoology, and Dr. Henry W. Spangler, Professor of Mechanical Engineering. Dr. Clarence E. McClung was appointed to the former position, and Dr. Robert H. Fernald to the latter. The vacancies caused by the resignations of Dr. Charles L. Doolittle, Professor of Astronomy, and Dr. Morton W. Easton, Professor of English and Comparative Philology, have not yet been filled. In the Medical School, Dr. William Pepper was appointed Dean of the Department last June, succeeding Dr. Allen J. Smith, who will hereafter devote his entire time to his professorship in Pathology. The vacancy in the chair of Practice in the Law School, caused by the resignation of Prof. John W. Patton, will undoubtedly be filled by the Board of Trustees at their October meeting, and a number of additions to the Auxiliary force of Law School lecturers will also take effect this fall. There are a number of minor changes and additions to the teaching staffs and corps of demonstrators in the Medical, Dental, and Veterinary Schools. In the latter the clinical instruction during the coming season has been further improved by the election of a special assistant for each clinic.

Changes in Campus

There have been numerous physical changes made during the summer and a number of buildings started. The last section of the Veterinary buildings was started early in the summer and is rapidly nearing completion; it will provide extensive quarters and equipment for laboratory instruction in pathology, bacteriology, pharmacy and milk hygiene, together with three additional class-rooms. Formerly this work was given in temporary quarters. This last section practically completes the series of Veterinary buildings, which cover half a city block and enclose a spacious courtyard. A new wing has been added to the Maternity Building of the University Hospital, which will be devoted to an Obstetrical Dispensary. The main building of the

Nurses' Home was removed from the southwest corner of 34th and Spruce Streets to the northwest corner of 34th and Hamilton Walk—a distance of 256 feet. The building is three stories high with a frontage of 86 feet and a depth of 45 feet, and it is believed to be the largest brick structure ever moved so great a distance. The old building will be on its new foundations within a few weeks. Upon the old site will be erected a new wing to the Hospital system, to be known as the Surgical Building. It will be devoted to the surgical wards, operating rooms, x-ray laboratory, and an orthopaedic gymnasium. The new dormitory known as "The Thomas Penn House" will be occupied for the first time this fall. The house is the twenty-ninth building in the dormitory series, and with a two story archway forms the northeast corner of the new "South Quad." This gives the dormitories a total capacity of 873 students. The new Zoological Building along Hamilton Walk is finished and completely equipped, although the department occupied quarters in the building during the greater part of last year. Ground was broken for the addition to the present Museum building, a number of new tennis courts laid out upon the site for the new Wharton School building, and additional stands built upon Franklin Field, giving a seating capacity of almost thirty-one thousand. On the morning of September 24th ex-Mayor Weaver, the President of the Evans Museum, and Provost Edgar F. Smith, of the University, formally broke ground for the new building of the Evans Museum and the School of Dentistry of the University, at 40th and Spruce Streets. The building will be 242 feet long by 161 feet deep. The architecture will be Collegiate Gothic, and in keeping with the other University buildings. Its cost will be almost a million dollars, besides which the two corporations will have an endowment fund of about $ 600,000. The campus has never been in a better condition nor more charming, much having been done within the last year to improve it.

WHAT OUR STUDENTS ARE DOING ABROAD.

Dr. Alakh Behari Arora B.A., son of Babu Banwari Lal, retired sub-registrar of Shaharanpur, after completing his medical course at the Lahore College went two years ago to England. He has taken there the degrees of L.R.C.P. & S. (Edinburgh), L.R.F.P. & S. (Glasgow), D. T. M. (London), and D. P. H. (Cambridge). He will come back in January next after taking the D.T.M. and H.

Moulvi Mansoor Ahmed Khan, M.A., an Old Boy of the Aligarh College, who is prosecuting his post graduate studies in Arabic as a State Scholar in the University of Berlin, has been allowed the State scholarship for one year more to enable him to finish some important research work in which he is engaged.

Mr. G.H. Kelkar, M.A., one of the Life-members of the Deccan Education Society, has gone to Cambridge to study English to qualify himself better for the professorship of English in Fergussion College. He is being sent by the Deccan Eduoction Society with the funds placed at its disposal by the special Imperial grant. He will stay at Cambridge for three years and appear for the Modern Languages Tripos and will also, if possible, qualify for the teaching profession by a course at a Training College. Mr. Kelkar has been all along a student of Fergusson College and has passed all his examinations in the second class—B.A. in the first class. We have no doubt that three years hence Mr. Kelkar will form a very valuable addition to the College staff.

Mr. C. V. Sakhalkar of the junior B.A. class Fergusson College has proceeded to England to study for the I.C.S. at Cambridge. was in the College only for this year having Mr. Sakhalkar passed his Intermediate Examination from the Wilson College in the first class. We wish him success in his attempt.

Mr. Mothey Narayana Row, son of late Mothey Subba Rao Guru of Ellore, who was the founder of the Jute Mills there and who was one of the premier merchant princes of Northern Circars, with two other students, left Bombay for London, by S.S. *Persia* of of the P. & O. Company on 19th last. They were studying at Rajahmundry in F.A. Junior Class. They intend studying for M.A. and Bar-at-Law.

PASSIONS

BY PROF. H. N. MITRA.

"Oh! If I had a little more power—a little bit more of that inward strength which has enabled so many to rise up to the highest rung of the ladder of life and which has been denied to me! How I wish I could—." Such complaints bitter and burning as they are—how bitter and how burning can be gauzed only by sympathetic minds—have really become the stock-in-trade of our young men. They are often spoken about rather lustily by many; but an observant eye can not fail to notice the same bitterness ailing the hearts of a few of the genuine aspirants. Their life is nothing if not sorrow writ large. And their pining under the cloud of such supposititious want of inner strength and their total renunciation of the sunny side of life often make them unsolved curios of society, meek, gentle, unobtrusive, pliant persons within whom the promethean fire kindled in ardent youth still smoulders. More likely the cold sponging of advancing sobriety and the misanthropy which follows in the wake of the piled up debris of repeated failures have quenched that fire for good, leaving probably a mere reminiscence of what once there had been.

Reflection brought me on to turn my thoughts on Carlyle. That fire-sprouting bully of a man and his writings will always stride this earth with his enigma. To feast upon one's heart with the warm sausage of passions may be a feat entirely Carlylean, but for the ordinary run of mankind that would not ever prove a very pleasant occupation, far less an appetising ration. How I recall those words of his coming out like solid ingots of gold from his richest magazine—the Sartor—"Be no longer a chaos, but a world. Produce! Produce! Were it but the pitifullest infinitesimal fraction of a product, produce it, in God's name. It is the utmost thou hast in thee: out with it, then." Would to God I could only *know* what to Produce. I wonder if productive men ever stood in need of such exuberant invocations.

But what is it really—this vast coil of a circling complaint-smoke rising out of the cauldron of this earth and settling upon it again? Who is this one-eyed monster whose grim humour it is to gorgonise everything that is sweet and pleasant and calm in this world, or at least to enjoy the sardonic fun of granting it a transitory existence? It is *Passion*. It is the warring elements of man's mind, his prejudices and his yearnings, his whole brood of emotions bursting out in spasmodic gasps of hopes and fears, exultations and remorse and a host of such other irreconcileable dualities that work havoc with him. It is the riotous combination of all those sporadic evolutions that arise spontaneously from an uncultured mind that keeps him always in the fore front—ever the fated target of Destiny. Offer incense at the altar of this God of Passion and you will undermine everything that is near and dear to you, your manhood, your happiness, your cherished institutions, your governments; nay, if you want you can have re-enacted Irish rebellions, Bengal conspiracies, your Reigns of terror, your Moscow retreats, your St. Helena moanings. You could treble Gibbon's History; you could rewrite the whole history of the world. From Troy to Port Arthur the march of history is the march of an unbridled naked army of passions. If you want any degree of emasculation you can do no better than propitiate this God.

But is there no remedy—no remedy for this cankerous disease that vampire-like has feasted upon man's mind since the deluge? Of all Philosophers who have exercised their brains on this Sphinx' secret, I think Benedict Spinoza ranks foremost. Brushing aside all such weird philosophical jargons as Hedonism, Altruism, Dualism, Monism and all that, we find in Spinoza a genuine answer to our question—one which really goes to the heart. Seeing as he saw the world, he tried to come to the genesis of all evils. And his clear logic having shown him that passion is the root-cause, he set to his task of formulating a passion-less healthy course of life. Yet not entirely passion-less; for the ideal of peaceful and active life is not to get rid of passions but to remove from it the venomous sting. To his unruffled mind it was apparent that man suffered not from the intrinsic deficiency of his own constitution—*i. e.* of his entire self—but from misjudged abstractions which arise as a false response to his environment. Given the world and its changeable characters, the existence of man must be regarded as a link in the endless concatenation of natural events. What he is, he is to regard not from

the troubled shores of his tossing emotions but from the stand point of his being an unit—a specialised organic unit—of the universe. Being a part of nature, he is from the very nature of the question as susceptible to her forces as anything else. But though thus dependent absolutely upon his fellow-natural events, and though Passions must of necessity arise from time to time and swell his heart in harmony with his environment, man possesses in his essence the potency of self-determination. And even this power of self-determination is not an isolated piece of power given to him as a special favour. As in all other natural phenomena, reaction is the correlate of action. If physical environmental forces be far too strong to resist the swelling tide of passion, it is no less true that that upheaval is followed in its immediate wake by a reactionary power of resistance. And though the freedom he ascribes to himself is really an illusory freedom, bound up as he is with the machinery of nature, this reactionary power of which he is the unconscious agent, can be raised to a high degree of tension by proper culture. Has not the law of inertia universal application? Pitted against such supreme force which we popularly call Reason, how long will Passion hold? Where there is Reason, there is knowledge; and knowledge of passion, says Spinoza, destroys passion. For what else is passion, if not a blind unruly fury of something you know not of? Thus it is that though from the very nature of things, passion is not radically curable, yet it can be rendered inoccuous by letting its fangs strike against the solid rock of reason. It is only when thus encountered that it can be chastened down.

Sensations of pain from unfulfilled desires and longings rebound on us as such when a rude, though but natural, shock is given to the exercise of our unreasoned will. Hence activity which is guided by blind passion constantly meets obstacles. Hence the depression, the self condemnation, the misanthropy which results in consequence. Hence too the vague suspicion of this world not being the abode of goodness, of purity and chastity but of some sullen Demiurgus of whose melancholy humour man is a play thing. Coloured by pain, the necessary outcome of passion, all activity appears to him to lead to the same dark cave of gloom into which he has himself been pitched. But thanks to reason, a rational mind, poised well to regard things in their true colours, has in it the springs of perpetual activity.

Hemmed in as a man is, coditioned as he is by external nature, it is an utter folly for him to think himself free—free from the fetters of his mind. Vanity comes out of this, and with vanity is instilled a fitfulness or caprice which tries to determine his actions by a standard of good that is fluctuating and contingent. To sway with the alternate tides of pleasure and pain is to let passion rule; and to do that is to commit organic suicide.

Thus the cardinal bondage of man being passion, the true resort of a troubled mind is reason. Reason unties the knots and sets a man free by pointing out his errors. As soon as the light of reason falls upon the stormy cloud of one's passion, the mist disappears and lo! the whole panorama shines in an effulgent radiance of Intelligence. When reason shows you things in this just proportion, error vanishes, ideas become distinct and clear, and what was before a source of evil and pain now becomes transcendentally pleasant. You revel in unbounded joy and walk in an atmosphere with an abiding sense of contentment. And not only this. For by conquering passion, reason does not smother it out, but makes it an ally, and thus redoubles its own inborn power. What you sought to do through passion, you do with more success, more peace and more efficiency through reason. What we seek deliberately under the immoderation of the passions, may be sought, with far greater success, intellectually under the guidance of reason. By this process of inoculation and transformation, not only do we get strength, but we also elevate some of our lower appetites to the platform of the sublime. It may appear that in maintaining this doctrine of transcendent reason which alone can break loose the fetters of passion, we are ignoring if not going counter to the supremacy of conscience. But before the bar of reason, all the weight of evidence is in favour of proving conscience as but an idealised and hallowed passion. Conscience may transcend passion, but reason transcends all. For is it not a fact that like all passions, consceince too depends upon individual temperament? Conscience is a spontaneous offshoot independent of any reasonable thought. It differs in different men even when the

subject matter is the same. And even when it sits magisterially and passes judgment upon the evolutions of the heart, what is it really doing but check a passion with another passion? Is this process calculated to bring everlasting good? Is it not rather time-serving? And after all is not conscience a rather sudden determination? And conservative as our world is, will not something that is brought into being in direct opposition to all recognised laws of cause and effect, be on the whole fugacious and abortive? If, for instance, self-immolation be what conscience precipitately pronouces for some act of yours that deliberately is unconscionable, would that be advisable nay even practicable? Would it not, on the other hand, be better far to let Reason have the upper hand and rectify the crooked path along which you have sped with the strength of her native glacier-like movement?

True, the contingency of arguing passion out by reason is obviated by a sudden blaze of conscience. But is it worth while? Is our thin-spun life the seal of such a stout mind that it can withstand the shock of a revelation of which we have no prevision? However enthralling conscience may be, at bottom it is passion metamorphosed.

And responsive to the call of one's environment when passion—whether genuine or metamorphosed into emotions or conscience—arises to lacerate one's very being why is it that a resisting power of self-determination heaves up from the same source of which they themselves are the offspring?

The ideal, therefore, of all life is a passionless life. This, however, does not mean that the ideal life is an undisturbed passive life. Quite on the contrary, passivity and passion are, in effect, the negation of that activity of which the latter appears to be such an ardent votary. Activity, worth the name, not one of the fugitive sort, is what is guided by reason. For this reason, reason and passion can never co-exist. Where emotion is contrary to reason, it is noxious, it is the source of pain; where it is consonant with reason it is useless as a separate entity. In either case it is an invasion from the outside on that purely self-affirming activity in which the mind's freedom consists.

Thus it is that to live in peace is to live most. An absolutely passionless man is a Free man. He only is wise who basks in the perennial sunshine of reason. He hates no man, envies no man, is angry with no man. For the same reason he has no blind and passionate love for any thing nor does he pity any thing—animate or inanimate. He does nothing at the mere dictates of his feelings. From a purely rationalistic stand point he orders his life along that simple path which in itself is Empyrean.

H. N. MITRA.

The Pedagogy of the Hindus—II

BY PROF. B. K. SARKAR, CALCUTTA.

(*Continued from Page 25*)

A Critique of Western Pedagogics

This system as described above is, of course, the outcome of, and is directly related to, the peculiar conditions of western life and thought. It certainly satisfies the wants of the community in which it has grown historically, but it is absurd to suppose that it is sufficient to meet the needs and requirements of all communities.

There is a well-defined place for religion in the western view of life. By religion the people of the west understand certain cut and dried notions and practices of man precisely differentiated from other aspects of his activity. The rites and ceremonies attending religious life, the doctrinal theories and devotional institutions connected with the worship of God, the sense of the Godhead and the Infinite, in fact, the whole of that apparatus and laboratory that constitutes in all climes and ages the paraphernalia of Religion—all these are regarded by the westerners as specialised thoughts and activities of man—quite distinct from all other notions and practices. There is, so to speak, a special division of the human brain set apart for religious thoughts, there are certain special emotions and sensibilities of the heart for realising the feelings of devotional life, and there is in man a peculiar hankering or craving that may fitly be described as the hunger for the Infinite. Religion is thus only one of the thousand and one aspects of humanity, only one of the many departments of man's active and meditative life; and there are functions

specially relegated to this religious compartment. This conception of the water-tight compartments of human life is the key to the solution of religious problems arrived at by Europe and America.

To the ordinary westerner physical life and physical training, or intellectual life and intellectual training, are not aspects of religious life and religious training except perhaps in a metaphorical sense. Thus, for example, it cannot be religious thought or activity of man to attend to the enjoyment of his physical life *e.g.*, by riding, or minister to the cravings of his intellectual self, *e.g.*, by attending to lessons in natural sciences. So also it cannot be part of religion to preach a certain truth in a literary club or discuss politics in Parliament. These activities lead only to the physical development or cerebral growth or unfolding of social tendencies of man.

It is believed by the west generally that a real religious life would mean the culture of certain non-physical, non-intellectual and non-social faculties. It is necessary in the interest of religion to adopt certain doctrines and dogmas. It is desirable that man should follow certain codes or scriptures containing the fixed articles of faith or canons of religious life. It is also desirable that there should be certain fixed days and periods for religious thoughts and services. It is only when people attend to the special services on fixed days, it is only when people study the scriptures or hear the sermons in divinity halls, that they are promoting the growth of their spiritual life and advancing the cause of religion. So that there need not be any connexion between these thoughts and activities and others that fill in the other compartments of human life. It would indeed be an intrusion and a quite uncalled-for interference if these conceptions were to be taken out of their own sphere, their own place in man's daily routine of work and recognised in the regulation of the whole of human life and the formulation of the whole duty of man. It would suffice, if Political Science, Economic Science and other sciences were requisitioned to help man in his other avocations and prescribe the duties in each walk of life. Religion is religion and should 'let' secular and social life 'alone'.

This conception of religion and religious life is responsible for the theory underlying the constitution of a Theological Faculty in connexion with European and American Universities. And there is another factor that has determined the shape and functions of this theological Faculty. It is the ideas of westerners regarding the proper ways and means for making man religious, the adequate preparation for a really religious life, in short, their conceptions governing the details of what may be called the *content* of religious education

For what do the pedagogists of Europe and America mean by Religious Education? It is nothing more than a few discussions and dissertations, study of certain books and several literary investigations, what, in fact, should be really described as intellectual gymnastics, processes calculated to promote and quicken the thinking powers of man and enlarge his mental horizon.

The syllabus of religious training as adopted in Theological Classes or Divinity Colleges consists of lessons in the life and work of the saints, preachers and martyrs of the religion followed by the pupils. They have to master the landmarks of their religious history, study the biography of the great men who have by their examples and precepts been the makers of their religion, discuss the doctrines and dogmas preached by each, investigate the constitutional, administrative and devotional aspects of their non-secular life, and discover the circumstances of the origin, growth, and development of the socio-religious institutions that constitute the positive and exoteric side of religion.

Of course if religious education means the study of books giving an account of the faith professed by the students, the principal function of the religious teacher and theological seminars necessarily reduces itself mainly to the *historical* investigation of the subject matter. And there is certainly a great advantage in this, for by thus fixing his eyes on perhaps the most potent factor of national life, the student begins to acquire clear and vivid notions of his national history. History becomes living, real and inspiring by getting flesh and blood, enlarges the vision of the learner and can actuate him to perform noble deeds. The concrete details in the past religious history of the people, the facts and phenomena connected

with its socio-religious life begin to powerfully influence the mind. This sort of religious training is, therefore, of the utmost importance to all schemes of 'national education' since it supplies a means by which the learner naturally and easily gets familiar with the ins and outs of the people's life and the events and traditions of his national history.

There is another aspect of this curriculum of religious studies. This introduces the student to the very heart of the people's movements, the soul of all its activities. The ideas and ideals of the nation in the different ages of its history, the thought-processes, and inner life of the people, its conception about God, Nature and the Universe, the notions of its preachers and teachers about the origin and destination of mankind, the tenets and dogmas concerning the worship of gods, religious rites and ceremonies, the truths and precepts that have been the life-blood of the saints and martyrs, the points of difference between ideal and and ideal, faith and faith, dogma and dogma, the influence of varying creeds upon language and literature, and the inter-connexion between faiths and all other aspects of socio-economic and socio-political life,—in short, all those opinions, sentiments, and convictions that make up the thought-history of a people and constitute the psychological basis of a growing, moving and expanding national life, all those inward currents that differentiate nation from nation and characterise the types of civilisation and culture begin to acquire a special emphasis in the courses of instruction. *Philosophical* and sociological facts and phenomena thus impress the mind naturally and easily, and the whole history of national ideals and sentiments leaves its mark upon the everyday life of the pupil. All schemes of 'national education' therefore, need have such courses in religion, for these are of substantial help in familiarising the learner with the traditions, tendencies and the natural bent and 'genius' of his society.

Besides, this sort of religious training equips the student with mastery over the facts and phenomena of another department of philosophy. For in this way an adequate basis is prepared for the study of the *comparative sciences* of religion, mythology and sociology. Ground is thus prepared for the application of the inductive method and philosophico-historical investigation of socio-religious problems; and the discovery of the laws of religious evolution, the origin of religious sentiment, the development of the sense of the Infinite, and the principles underlying the growth of religious institutions become a matter of course, easy and natural, like the normal processes of life.

Religion studied in the manner described above is a branch of learning like Physics, Biology and Mathematics. It occupies an important place in the historical curriculum and a prominent position in the courses of philosophical instruction, ; if independently treated, may have claims as a specialised course ; and is in any case merely a subject of study. And so adequate provision is made if on the model of Faculties and Boards of Painting, Philosophy and Literature a special Faculty of Theology is constituted under the general control of the University.

The functions of this Theological Faculty are to be exactly analogous to those of all other Boards and Faculties. It will do nothing more than prescribe the text books, point out the rational methods of study, prepare catechisms or manuals, if necessary, select the truths to be investigated, define the hours of study, and appoint the professors and preachers. The students are examined annually, biennially or periodically,as the case may be,in religious courses as in Drawing, Botany and Chemistry,&c. To provide for the accommodation of theological classes, Churches, Religious Semi-Divinity Halls &c. are constructed on the model of workshops, factories, laboratories, museums, libraries and reading-rooms in connexion with the other University Buildings. Diplomas and titles, certificates and testimonials have necessarily to be awarded to the successful candidates, and B. D's and D. D's supplement the list of M. A's and Ph. D's in the schedule of the University alumni.

As would be manifest from the courses in Theology these Bachelors and Doctors of Divinity learn the art of public speaking and acquire mastery over the technique of pulpit eloquence, become proficient in marshalling facts and arguments for sermons and in discussing theological controversies, study the manners and customs of different peoples among whom they may have to live and preach, and are taught the principles of social intercourse, the methods of conversation and

the ways and means of winning over the hearts of people. In fact, the life and etiquette of clubs, parties and social gatherings are the main teachings of religious classes; for in these the students and instructors can meet on several novel platforms and discuss methods and principles of work in new fields. The intercourse between the teacher and the taught, the capacity for collective thought and activity are promoted and developed through this sort of social, public and corporate life.

But in any case the religious education that obtains in the west is mainly a branch of intellectual culture. It is only the brain that is developed and the mental faculties that are exercised, the powers of thinking out and analysing historical and philosophical problems that are invigorated and strengthened,—and at best the social aptitudes and public spirit that are fostered by submission of a pupil to this sort of training in Theology. Exactly the same faculties are exercised in the study of Shakespeare's Plays and Kalidas's Poetry, exactly the same powers are developed by the investigation of truths in Manu's *Code* and Plato's *Laws*, exactly the same aptitudes and tendencies are strengthened by the memorising of *Pilgrim's Progress* and *Hitopadesha*. The religious instruction does not, in *kind* at any rate, supply anything to the pupil more than what passes for secular education. The difference between the so-called religious education and ordinary education is at best one of *degree* only.

The study of the constitution of the Theological Faculty as well as of the 'content of religious education' as followed generally in Europe and America brings one into direct contact with the very soul of western pedagogics, the ideals and aspirations of the educators of the west in the systems of education they have built up, their conception about man and his destiny, their fundamental philosophy of life, and their view about the position of man in the scheme of the universe.

CALCUTTA. B. K. SARKAR.

Hindu Mathematics—II

ALGEBRA

In Algebra the ancient Hindus excelled not less, probably more, than in Arithmetic. Their symbols of operation in Algebra were as perfect as our own. They called the unknown quantity *yávattávat* (यावत्तावत्). When however, several unknown quantities occurred, to each, they gave, a distinct name and symbol. The first unknown quantity only was designated by the general term "unknown quantity"; but the rest were differentiated by names of colours, as the black, blue, yellow, red or green unknown, the initial syllable of each word constituting the symbol for the respective unknown quantity. Thus *yá* (या) meant x; *ká* (का of कालक) y; and so on. They had also their own mode of indicating addition, subtraction &c. Addition was indicated simply by juxtaposition; subtraction, by placing a dot, over the subtrahend; multiplication by putting the letter *bha* (भ, presumably the first letter of the word भावित which means "the product"); and division, by writing the divisor beneath the dividend; the square-root, by writing *ka* (क the first letter of करणी) before the quantity. Thus, *yá ká* (याका) meant "x plus y" whereas *yá ká bha* (या का भ), "x times y"; *ka ká* 5 (कका) meant $\sqrt{y-5}$, and so on.

In this particular branch of mathematics *viz.*, Algebra, the Hindus made wonderful progress. Every student of mathematics knows that for the most general solution of the quadratic equation $ax^2+bx+c=0$ we are indebted to the eminent Hindu mathematician Bhaskara. It is this Bhaskara who for the first time observed that a quadratic equation has always two roots, and that an equation may have negative roots. He gives $x=50$ and $x=-5$ as the roots of the equation $x^2-45x=250$. It may be mentioned here that the Indians were the first to recognize the existence of negative quantities. To the positive quantity what attached the idea of 'possession', and to the negative, that of 'debts'. In Bhaskara's time the Hindus had a much advanced idea of positive and negative quantities. In Bhaskara's *Siddhantasiromoni* it is stated in clear terms that "the square of a positive, as also of a negative number is positive; that the square-root of a positive number is twofold, positive

and negative. There is no square-root of a negative number, for it is not a square."

Although the ancient Hindus succeeded in generalising the solutions of both linear and quadratic equations, their efforts in solving the equations of higher degrees did not prove so very successful. Of these equations of higher degrees, they could solve only some special cases, where both sides of the equations could be made perfect powers by the addition of certain terms to each side. In indeterminate equations the Hindus made even greater progress. They were exceptionally skilled in *indeterminate analysis*. Unlike the Greeks, the Hindus tried to find out all possible integral solutions whether positive or negative. Early in the sixth century A.D. the Hindu mathematician Aryyabhatta succeeded in solving linear indeterminate equations of the form $ax \pm by = c$, where a, b, c are integers. This Hindu solution is substantially the same as the one arrived at in Europe only about the middle of the eighteenth century by the Swiss mathematician Euler (1707-1783). Euler's process of reducing $\frac{a}{b}$ to a continued fraction amounts to the same as the Hindu process of finding the greatest common divisor of a and b by division.

Coming to the indeterminate quadratic equations we find the Hindus equally successful. In solving the equation $xy = ax + by + c$, they employed the method which we do now and which was not known in Europe even before the time of Euler. The method, as everybody now knows, consists in decomposing $(ab + c$ into the product of two integers $m.n$ and of placing $x = m + b$ and $y = n + a$. Again, the Hindu solution of the quadratic equation $cy^2 = ax^2 + b$ is simply remarkable. They began by solving the special case $y^2 = ax^2 + 1$. This they did by employing the method known as *cyclic method*. "This consists in a rule for finding an indefinite number of solutions of $y^2 = ax^2 + 1$ a being an integer which is not a square), by means of one solution given or found, and of feeling for one solution by making a solution of $y^2 = ax^2 + b$ give a solution of $y^2 = ax^2 + b^2$. It amounts to the following theorem:—"If p and q be one set of values of x and y in $y^2 = ax^2 + b$, and p' and q' the same or another set, then $qp + pq'$ and $app' + qq'$ are values of x and y in $y^2 = ax^2 + b^2$. From this it is obvious that one solution of $y^2 = ax^2 + 1$ may be made to give any number and that if, taking b at pleasure, $y^2 = ax^2 + b^2$ can be solved so that x and y are divisible by b, then one preliminary solution of $y^2 = ax^2 + 1$ can be found". This "cyclic method" constitutes the greatest invention in the theory of numbers in the whole mathematical world before the time of the French mathematician Langrange (1736-1813). The equation $y^2 = ax^2 + 1$ is now curiously enough, called *Pell's problem*. This is how the name of John Pell has been immortalised by being associated with this notable problem. Fermat, the father of the modern theory of numbers proposed the problem to the Frenchman Bernhard Frenicle de Bessey, and in 1657 to all living mathematicians. In England Wallis and Lord Brounker conjointly found a very laborious solution which was published in 1658, and also in 1668, in an algebraical work brought out by John Pell. Pell had no other connection whatsoever with the problem, still it goes by his name.

The Hindus had also their elegant methods of extracting the square and cube roots. This they did by employing the formulas $(a + b)^2 = a^2 + 2ab + b^2$ and $(a + b)^3 = a^3 + 3a^2b + 3ab^2 + b^3$ respectively. Most of the other algebraical operations as we know now were not unknown to them.

TRIGONOMETRY.

Let us now pass on to Trigonometry. In this branch of Mathematics also the Hindu mind showed great adaptation. The Hindus like ourselves divided the circle into quadrants and each quadrant into 90 degrees and each degree into 60 minutes. The whole circle was thus divided into 21,600 equal parts. The most accurate value of π was also known to them. At a very early epoch the Hindu mathematicians treated π to be equal to 3, and later on as equal to $\sqrt{10}$. Aryyabhatta gives the value $\frac{3\,1\,4\,1\,6}{1\,0\,0\,0\,0}$. Bhaskara, however, gives two values,—the 'accurate' $\frac{3\,9\,2\,7}{1\,2\,5\,0}$, and the 'inaccurate' $\frac{2\,2}{7}$. It may be mentioned here that only the inaccurate value of π, *viz* $\frac{2\,2}{7}$ was known to the Greeks, and this was calculated by Archimedes. Bhaskara calculated the values by beginning with a regular inscribed hexagon, and applying repeatedly the formula $AD = \sqrt{2 - \sqrt{4 - AB^2}}$, where AB

is the side of the polygon, and AD that of one with double the number of sides.

It is a notable fact that the Hindus never reckoned with the whole chord of double the arc, but always with the *sine* and *versed sine*. Their mode of calculating trigonometrical tables was very simple. The sine of 90° was equal to the radius which from Bhaskar's 'accurate' value of π was found to contain 3438 of the 21,600 equal parts into which a circle was divided. Sin 30° was evidently half of sin 90° or 1719. Applying the formula $\sin^2\alpha+\cos^2\alpha=r^2$, they obtained $\sin 45^\circ = \sqrt{\frac{r^2}{2}} = 2431$. Substituting for $\cos\alpha$ its equal $\sin(90-\alpha)$, and making $\alpha=60^\circ$, they obtained $\sin 60^\circ = \sqrt{\frac{3r^2}{2}} = 2978$. After calculating the sines of 90, 60, 45 and 30 degrees, they reckoned the sines of half of these angles by the help of the formula $\text{ver sin } 2\alpha = 2\sin^2\alpha$. They then found out the sines of the complements of these half-angles, and then the sines of half of these complementary angles and so on. By this very simple method the Hindus succeeded in getting the sines of angles at intervals of 3°45′. It should be mentioned here that in the table thus prepared they discovered the unique law that if a,b,c be three successive arcs such that $a-b=b-c=3^\circ45'$, then $\sin a - \sin b = (\sin b - \sin c) - \frac{\sin b}{225}$.

This formula they afterwards used whenever a recalculation of tables had to be made.

In solution of triangles the Hindus were as well up as in other portions of Trigonometry. They knew to solve not only plane but also spherical right triangles. In so far back as the earlier part of the seventh century Brahmagupta found out the area of a triangle in terms of its sides. The Hindus were also familiar with the calculation of the areas of circles and their segments, of the length of chords and perimeters of regular inscribed polygons. This much for Trigonometry.

GEOMETRY.

Lastly, let us take up the Hindu Geometry. In this branch of Mathematics the Hindus did not make so much progress as they did in other branches. And even if they made much progress, their works on the subject are not extant now. There is no work on the subject that deals systematically with definitions, postulates and axioms and in a logical order with the propositions known to them. The Hindus treated each theorem by itself and as an independent truth. And in most cases they give no proof. Their method is empirical. Thus, in the proof of the theorem that the square on the hypotenuse of a right triangle is equal to the sum of the squares on the two sides Bhaskara proceeds as follows:—He draws the right triangles four times in the square of the hypotenuse (as in fig 1), so that in the middle there

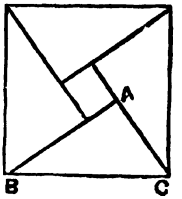


Fig. 1.

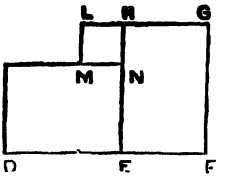


Fig. 2.

remains a square whose side is equal to the difference between the two sides of the right triangle. He then arranges this small square and the four triangles in the way shewn in fig. 2 and simply says "Behold," without adding a single word of explanation. The proof, however, is not very difficult. DE is drawn equal to AB, and EF and NE both equal to AC. Then HN is equal to (AB−AC) and the square on $HN=(AB-AC)^2=AB^2+AC^2-2AB.AC$. Now each of the rectangles DN and HF is equal to AB. AC and also equal to twice the right triangle. Therefore the whole figure becomes equal to AB^2 plus AC^2 and it at the same time consists of the figures which go to make up figure No. 1 *i.e.* the square on the hypotenuse.

Of the theorem just mentioned Bhaskara gives a second demonstration. This is by drawing from the vertex of the right triangle a perpendicular to the hypotenuse, and comparing the two triangles thus obtained with the given triangle to which they are similar. It may be mentioned here that this proof was rediscovered in Europe only in the latter part of the seventeenth century by Wallis.

The Hindus also studied the properties of quadrilaterals and circles. Brahmagupta

gives several problems on quadrilaterals inscribed in circles. The most notable among these is the proposition that goes by the name of "Ptolemy's Theorem", *viz*, that in a quadrilateral inscribed in a circle the product of the diagonals is equal to the sum of the products of the opposite sides. The Hindus were undoubtedly familiar with most of the Geometrical truths we now know and which took European scholars many a century to rediscover. The Euro peans had to do over again the work the Hindus did centuries ago. This is because, unfortunately the Arabs, through whom the Europeans derived their knowledge of Hindu Mathematics, transmitted to Europe only a small portion of the Indian culture, and the original Hindu manuscripts, which are now available, were unknown in the Occident even about half a century ago.

We have thus seen that the Ancient Hindus made wonderful achievement in the science of mathematics. And when we consider what progress the Hindus made and in what improved methods they solved their mathematical problems and that they did so at an age when the whole of Europe was immersed in the oblivion of barbarism we are naturally filled with an admiration for them. Truly an eminent mathematician has said "It is remarkable to what extent the Indian mathematics enters into the science of our time. Both the form and the spirit of the arithmetic and algebra of modern times are essentialy Indian and not Grecian. Think of the most perfect of mathematical symbolisms—the Hindoo notation, think of the Indian arithmetical operation nearly as perfect as our own, think of their elegant algebraical methods, and then judge whether the Brahmins on the banks of the Ganges are not entitled to some credit. Unfortunately, some of the most brilliant of Hindoo discoveries in indeterminate analysis reached Europe too late to exert the influence they would have exerted, had they come two or three centuries earlier."

A. B. C.

CLEAR SPEECH AND CLEAN SPELLING

By Professor Walter Rippmann.

Chief Inspector of Schools for the University of London & Hon. Treasurer of the Simplified Spelling Society.)

To those interested in the movement for securing clear speech and clean spelling the wide spread ignorance which tends to check progress on many sides is at once a source of amazement and a spur to further unremitting effort.

Is any civilised nation as ignorant as ours of the sounds employed in living speech? Has any other the same ill founded revernce for chaotic spelling?

People who are otherwise quite educated find it a matter of the greatest difficulty to utter separately the sounds of which a word is composed; and this does not prevent them from laying down the law about the pronunciation of this or that word with great confidence. Indistinct utterance and unpleasant intonation are far more common than they should be.

Most teachers of English who try to correct the pronunciation of their pupils, have to rely on imitation. They have not made a study of the speech of their pupils. They have a vague sense that their speech is right and their pupil's speech wrong; but to give any clear account of the difference between the two is altogether beyond them.

This neglect of the spoken language goes back to the first years of school life, when bad habits are formed which it becomes very difficult to eradicate.

The present spelling is taught with all its redundancies and inconsistencies; occasionally it is pointed out that the presence of a redundant letter gives some suggestion of kindred words. The *b* in *doubt* is connected with *dubious*, or the *gh* in *daughter* with the German *Tochter*. The idea is imparted that wherever the spelling is irregular there is some etymological justification for it.

Now, in the first place this is not true. A great deal of our bad spelling is simply due to faulty attempts that were made to represent sounds with an inadequate alphabet, or to the misguided efforts of the half-learned to make English words more like Latin words. In the second place, there is a con fusion here as to the purpose of the written language.

We write in order to communicate our thoughts. We speak for the same purpose; writing is a substitute for speech and a substitute not altogether adequate. If we hear a poem well read we derive more pleasure from it than when we read it, because the spoken language has a wealth of meaning in the intonation which the written language does not represent. When we read, the signs on the paper suggest the spoken language, and from this point of view they are the more satisfactory the better they represent the spoken language, i. e., the more regularly the signs used correspond to the sounds uttered. The perfect instrument is one that contains no superfluous parts, and that is as simple as is consistent with efficiency.

Language spoken or written is an instrument which we use constantly. It also can be made a subject of study. We use a sewing machine; we can also take it to pieces to see "how the wheels go round". We use horse for riding or for the drawing of carts; we can also study its anatomy, or trace its development from a more primative type. The use of language as an instrument is quite a different thing from the study of its history. Millions use it as an instrument who have not the time or the inclination or the requisite knowledge of other languages to study its history.

Now as an instrument the written form of the language is very bad. The redundancies are, to the man in the street, more obvious than the inconsistencies; both are trying to the learner, and entail a great expenditure of educationally worthless effort. Instead of simply learning the sounds and the equivalent signs, the child has to memorize the groups of signs that represent whole words; it has to remember *head* beside *bed*, *speak* beside *speech*, *word* beside *heard* and *absurd*, *Inflection* beside *detection*, *know* beside *no*, and hundreds upon hundreds of similar difficulties. The result is that there is no clear connection in the child's mind between sounds and signs; the confusion being rendered still worse by the misleading names of many letters.

The spelling is not more satisfactory for purposes of study. It gives a picture of the pronunciation not of the present day, but of the sixteenth century—if of any period at all.

A century from now teachers will be warning their pupils not to be mislead by the spelling of the early twentieth century into believing that, for instance, the people who wrote *k* and *gh* in *knight* actually pronounced those signs. The spelling of early English was relatively good—it enables the student to ascertain the pronunciation of the language. It was not burdened like ours, by useless letters; it did not represent the same vowel sound or diphthong in a dozen different ways, and it did not suggest wrong derivations like our spelling of *sovereign* (unconnected with *reign*) or *rhyme* (not derived from the Greek) or obscure the derivation like our spelling of *sprightly* (connected with *sprite*).

If our spelling is manifestly defective, why are we so attached to it? It is entirely a matter of habit. We see common words in writing and especially in print, more often than any objects of our daily life. In consequence, we have grown very much accustomed to them, so they have become intimately associated with the idea they represent. The rose by any other name would smell as sweet but to our eye "rose" is more attractive than *roez*. Some words have a pleasing look, and others repel, simply because they are associated with pleasant or unpleasant ideas. To change the look of a word is to break these associations; and therefore a truly simplified spelling which entails numerous changes is not attractive to the present generation. Habits—even bad habits—are dear to us.

But the coming generation would not feel as we do. Taught the rational spelling from childhood, their eyes would grow accustomed to the new forms of the words, and these would become closely connected with the ideas they represent, and would be invested with the same value that we give to the words in the present spelling. In this respect there would be no loss; and in other respects there would be great gain.

The teaching of reading would be bound up with the teaching of the spoken language. The training of the ear and the vocal organs would precede the training of the eye and hand. The use of the written language as an instrument would be acquired in a natural way, and far more quickly and surely than at present. The time saved could be devoted to other subjects that call for further attention in the short school of life of the vast majority of those who learn English as their

mother tongue. In our schools this would mean greater efficiency - and we cannot afford to neglect any means of keeping abreast of other nations in the advance towards a higher degree of civilisation.

This is where the gain would be greatest; but the advantages of a simplified spelling would extend beyond our shores. It would render the task of learning English far easier and more attractive to the millions of our fellow subjects in Canada, in India in South Africa A sound knowledge of English is the strongest bond of union in an Empire of such vast extent as ours.

Our gain would be even more far-reaching; nothing but the spelling prevents English from becoming the recognised language of intercourse between nations As such it would be of great practical value; and it would easily outstrip any artificial language—for those who had learnt it for practical ends would at the same time find in it the key to a rich literature, to which no artificial language can offer anything even remotely comparable. Our writers would have an appeal to a far greater number of readers; the speaker of English would command an audience in any part of the civilised world.

Clear Speech and Clean Spelling; try to realise what it means, do not be ashamed to reconsider your opinion on the subject of Spelling Reform. Say—if you like - "I am too old to make this change", but do not account this to yourself for virtue. You may be excused for not surrendering a deeply ingrained habit; but you cannot be excused for shirking a problem of such vast importance, or for depriving the coming generations of the opportunity to acquire, in a rational way, an instrument well fitted for the purpose of communicating thought

Such an instrument is offered to your consideration by the Simplified Spelling Society in the schemes which it has prepared. It is not put forward as something perfect and final. In some details it can undoubtedly be improved; but this much can be claimed for it: it acquires no new characters or diacritics, it is very simple to learn, and its adoption would mean an enormous advance. You may have full particulars concerning the scheme on application to the Secretary at 44 Great Russell Street, London, W. C.

FOR STUDENTS.

The Eighteenth Century Drama.

New influences were acting upon the poetical literature of the eighteenth century but the drama was at a stand-still. After Shakespeare and Ben Jonson, drama may be practically said to have died. In the interim between this and the latter half of eighteenth century, Dryden put in some plays, strongly savouring of the artificiality of the Restoration literature. Then during the earlier part of this century there was Addison, and in the later we have Johnson, Cumberland, Goldsmith and Sheridan. During the eighteenth century, "tragedy simply died out". The fatal correctness of Addison's *Cato* is a cheering, and lively quality compared with the ineptitude of Thomason's tragedies, the dreariness of Johnson's *Irene*, and the tame heroics of Home's once famous *Douglas*. But the century produced four great comedies. Of these Goldsmith's pair were by far the most original. Sheridan's were, in a great measure, brilliant and ingenious adaptations. However, apart from these, the century showed some talent for farce writing."*

This paucity of tragic drama has been attributed to the rigid and artificial convention which prevailed. Tragedy should mingle poetry and imagination, with practicability. But the aversion to anything irregular and the partiality for matter-of-fact and prosaic details made it impossible for the production of tragic plays.

There is no cloud without a silver lining. We need not lose hope. Dramatists were there to glorify this dormant state. They were David Garrick, Richard Cumberland, and Richard Brinsley Sheridan. Goldsmith was also a dramatist.

Garrick was the celebrated actor-manager. He appeared for the first time in the *rôle* of Richard III, and early made a name for himself. Pope said of him, "That Youngman

* Thompson.

never had his equal as an actor, and will never have a rival". Garrick adapted many Elizabethan plays and took a most unwarranted latitude in these recastings. His chief works are *The Lying Valet* (1740), *Miss in Her Teens* (1747), and *Clandestine Marriage*. Cumberland wrote many comedies. He was a skilful play-wright, and painted the sentimental side of life. His most successful works are *The Brothers* (1769), and *the West-Indian* (1771). Hugh Kelly was another sentimental dramatist, and his best known work is *False Delicacy*.

"The fame of Richard Brinsley Butler Sheridan in literature," says Prof. Saintsbury "is far more exclusively dramatic, for his theatrical and rather brassy oratory holds little place in literary memory." Sheridan is the author of three masterpieces.—*The Rivals* (1775), *The School for Scandal* (1777) and *The Critic* (1779). *The Rivals* is a skilful handiwork of the author. It mingles in itself farce and sentiment. In *The Rivals*, Sheridan is debtor to Smollett for some hints. "*The School for Scandal*," says Thomson, "is a brilliat comedy of manners, rich in satiric humour and polished dialogue, and displaying a command of dramatic situation." In it the dramatist borrowed some things from Fielding. *The Critic*, the last comedy of Sheridan, is got up on the model of Buckingham's "Rehearsal." "It is a combination of farce and burlesque" and has a sub-title the "Tragedy Rehearsed." These three are the principal works of Sheridan, whose other and minor plays are *St. Patrick's Day*, a bad operatic piece, *The Duenna*, a weak play, and *Pizarro*, a tragic piece.

Goldsmith has got two plays—*the Good-natured Man* and *She stoops to Conquer*. Garrick having refused to produce *The Good natured Man* at Drury Lane, it was staged at Covent Garden in 1768. The comedy was, however, too robust to succeed with the extra-senti-mental sensibility of the contemporaneous auditory. False sentimentalism was highly appreciated and Kelly's very bad piece, *False Delicacy* was warmly received, on account of its displaying that odious commodity to a sickening extent. Goldsmith's *laughter* was received with scorn by the affected hearers. *The Good-natured Man* had some good passages, some good characters and scenes. But generally considered, the plot is very ill-constructed. *She stoops to conquer*, another comedy, was produced in 1773 at Covent Garden. This play has more buffoonery than *The Good-natured Man* had, which is sober, when compared with the present droll piece. But this time, genius triumphed, though sentiment had still his sway. "Pit, boxes and galleries," says Macaulay in his inimitable style, 'were in a constant roar of laughter." To quote on: "If any bigoted admirer of Kelly and Cumberland ventured to hiss or groan, he was speedily silenced by a general cry of 'turn him out', or 'throw him over'." Thus we may lay it down, *Goldsmith failed in his plays, not so much for his own defect, as for the defect of the times.*

Of the minor dramatists, Edward Young and Joanna Baillie may be mentioned. Young's bad tragedies *Busiris* and *The Revenge* are not totally unknown and Baillie's *Plays on the Passions* (1819-1836) has some merit. other contributors to this department were Samuel Foote, a farce-writer, and George Colman.

AJAX.

REVIEWS AND MINOR NOTICES.

Across Australia. By BALDWIN SPENCER, C. M. G. and F. J. GILLEN. 2 Vols. Illustrated. (London: Macmillan & Co.) 21*s* net.

The work is one of permanent value as the authors have taken great pains to illustrate it by numerous photographs which they themselves took during their voyage. The authors, in crossing Australia, undertook a somewhat similar journey to that of Mac-Donall Stuart fifty years ago. They found that in the course of half a century the changes in the interior of Australia had amounted to practically nothing at all. This was fortunate, if for no other reason than the fact that it enabled the authors to produce the present volumes, showing the back fellow at work, at play, and, most notably of all, in all the varied rites of his numerous ceremonies. It cannot be doubted that this book will make a profound impression upon the scientific world as well as upon the general reading public.

Junior Sound and Light—By R. W. STUART D. Sc. AND J. SATTERLY, D. Sc., M.A.

(University Tutorial Press, London.)

This book contains a simple account of the rudiments of Sound and Light, illustrated by a course of practical work. It has been, we notice, specially prepared and adapted for the Cambridge Junior Local Examinations; but the treatment with the abundance of Exercises & illustrations is so very lucid, that the book is in every way suitable for use by all beginners.

The Hon. Rao Bahadur Mudholkar.

(Messrs. Natesan & Co. Madras.)

A welcome addition to Messrs. G. A. Natesan & Co's. series of "Biographies of Eminent Indians" is a sketch of the life of the Hon. R. N. Mudholkar, Member of the Viceregal Council. The writer has done full justice to Mr. Mudholkar's varied activities. "His interest in politics is as keen as his interest in Social reform; but if possible, he is even yet a warmer advocate of industrial development." At this moment when the question of his selection to the Presidentship of the coming Congress is being warmly advocated by a large number of Congressmen, this sketch of his life and career offered at the modest price of 4 As. is sure to command a wide sale.

The Life and Teachings of Buddha, By ANAGARIKA DHARMAPALA. (Messrs. Natesan & Co.) 12 *as.*

This is a clear and concise account of the life and Teachings of Buddha written by the well-known Bnddhist authority, the Anagarika Dharmapala, and in a style specially intended for non-Buddhists. A perusal of the contents will enable one to realise the wide field it covers.

Contents;- Introductory, Birth of the Future Buddha, The Boyhood of the Future Buddha, The Initiation of the Bodhisat, The great Renunciation, The Ascetic Life, The characteristics of the Buddha, The Philosophy of the Buddha, Skandas, The Gospel of Destruction, The essentials of the Religion, The decline of Buddhism, The Ethics of Righteousness, The Brahmachari Life, Analysis, The four stages of Holiness.

SCIENCE NOTES
AND OTHER INTERESTING MATTERS.

Can we create life

Some starting and revolutionary ideas have been presented to the British Association at Dundee. Dr. Schafer the emient Edinburgh Professor of Physiology, in his Presidential address, tackled the great problem of the origin of life. What is life? Can we creat life? Is death inevitable? These were some of the provocative questions Dr. Schafer boldly faced. The most remarkable passages of his address were those in which he dealt with the possibility of "Synthetic" or artificial production of life. Though far from the suggestion that some Frankenstein will ever succeed in creating a fully-equipped living being, he believes that chemists will sooner or later by a proper combination of certain elements, be able to produce a living substance similar in character to that from which all existing organisms have been evolved. Dr. Schafer has reached the conclusion that life is purely a matter of chemical interaction. The first forms of life are comparatively simple from the chemists' standpoint, declared Dr. Schafer. For example the nucleus which might be said to present the quintessence of cell life possessed a chemical constitution of no very great complexity, so that we might even hope some day to see the material which composes it prepared synthetically and when we considered that the nucleus was not only itself formed of living substances but was capable of causing other living substance to be built up, it must be admitted that we were a long way forward in our knowledge of the chemical basis of life. Such amazing theories have supplied the scientists with food for discussion for months and preachers with texts for sermons for years.

World's fastest Shorthand writer

The New York papers state that Mr. Nathan Behrin, reporter to the New York Supreme Court, has won the world's shorthand championship, attaining a speed of 279 words a minute. The passage selected for the test was law court matter.

Mr. Sydney H. Godfrey, of Ottery, Devon, won the world's championship at Baltimore, U.S.A. in 1906, with a speed of 250 words a minute,

The speed of the winner of the world's championship contest at Olympia in 1908 was 222 words a minute.

Centenarians

Statistics published in Germany indicate that there are at present in Europe over 7,000 living centenarians. Bulgaria comes first with 3888; there are 1,744 in Roumania, 573 in Servia, 410 in Spain, 213 in France, 197 in Italy, 113 in Austria-Hungary, 92 in England, and only two in Denmark. Longevity preponderates in the Balkan region, and is at a minimum in Scandinavian countries.

When we watch a snail creeping on a pane of glass we see beautiful waves of contraction passing along the "sole of the foot", i. e. the snail's muscular ventral surface. The foot works partly as a hold fast, adhering by its mucous secretion, or by acting like a sucker, or by both means. Professor G. H. Parker has studied numerous Gastropods and finds that the locomotion may be accomplished without (arhythmic) or with (rhythmic) the pedal waves. In rhythmic locomotion the waves may run from posterior to anterior (direct) or the reverse (retrogade), but a snail never moves backwards. The foot may show one, two or four series of waves. When there are two series, the waves may be alternate or opposite. "The pedal wave is an area of the foot that is lifted off the substrate as compared with the rest of the foot and thereby freed more or less from adhesion. It is also the region of the foot that moves forward, the rest of the foot remaining temporarily stationary. Locomotion is the cumulative result of local forward movement on the part of one section of the foot after another till the whole foot has been moved The same type of muscular movement as that seen in rhythmic locomotion can be present in a diffuse form (not wave like) in a gastropod foot and will result in locomotion."

Locomotion in snails

Americans point with pride to figures published proving that the spirit of democracy still flourishes at her seats of learning. It is not bad form in New York, apparently, or prejudicially to academical life, that students many of them at the great University of Columbia, should work during their holidays, and work mighty hard to earn their board and lodging fees during the scholastic year. The Columbia boys earned £20,000 during the year ending June, some serving as policemen on the two-penny tubes in New York, Boston, and Philadelphia, others as waiters and some even as dish-washers. One of the law school students earned £40 at a country grocery; another felled lumber in Canada; another made £60 by catering on an excursion boat. Several played in seaside orchestras, and one by running a moving picture -show netted £240. Nobody else earned quite as much. Many acted as holiday tutors.

American Self-Help students

Columbia shows no distinction to its students, and the richer class try to make the lot of the self-sustaining less exacting. The faculty reports that the spirit of the university and the tone of college life rather benefit than deteriorate by the presence of all classes, rich and poor, working side by side. Even the girls at Barnard College, the American Girton, whose parents are poor, are just as brave as the boys, and baby minding, house decorating, life insurance, canvassing, and managing kindergarten playgrounds are amongst their holiday enterprises for wages.

Americans encourage these workers for higher education in every way, and believe that such students when they begin the fight for life outside the university must prove invincible.

CUTTINGS.

KANT AND THE VEDANTA.

(BY PROFESSOR K. SUNDARA RAMA AIYAR M. A.)

Dr. Deussen of Germany once addressed an Indian audience as follows :—'My brothers in India will be greatly astonished to find in Germany the scientific substruction of their own philosophy." According to the eminent *savant* this "scientific substruction" is to be found in the transcendental philosophy of Kant which he says is almost the same as the Vedanta of Sankara and the doctrine of Plato. Dr. Deussen says :—"We have the same doctrine in three different parts of the world, but the scientific proofs are not in Sankara, not in Plato, but only in Kant." We hold, against Dr. Deussen, that the Vedanta of Sankara is not the same as the doctrine of Kant and that while Kant has given no proofs of his doctrine which can be regarded as scientific or satisfactory, Sankara has set forth the doctrine taught in the Upanishads so as to convince the purified mind of the qualified Indian that he is in direct contact with the truth, and with it alone.

Kant finds in man three distinct faculties to account for his experiences in the phenomenal world. Without the working of these faculties or endowments, human life will consist of isolated and contingent impressions having no unity or synthesis and therefore having no bearing on human progress and destiny. These three faculties are those of (1) Sensibility or perception, (2) Understanding, and (3) Reason, and to them correspond the three departments of Kant's transcendental philosophy—*viz.* the Aesthetic the Analytic and the Dialectic.

The Aesthetic deals with the conditions of sense perception, *viz.* Space and Time. They are not given to us from without through the senses, but are forms innate in the perceptive faculty. A sensation, pure and simple, cannot be experienced as such without being cast into the moulds—the innate forms—of space and time. It is these forms that modify impressions and relate them to us as co-existent or

successive. That the forms of Space and Time are innate in us is clear from the fact that distinctions in Space and Time do not exist objectively *i. e.* except in reference to a cognising subject.

The Analytic deals with the transformation or co-ordination of sensuous perceptions into knowledge. It is man's faculty of understanding which combines the sensuous perceptions into judgements or concepts. This is done primarily through the faculty of attention - or apperception as Kant calls it,—resident in the understanding; but this will not suffice. The several points in perception must also be *reproduced* in imagination and *recognised* as identical with those originally apprehended. Only thus can the data of perception be unified into a content of consciousness, a judgement of conscious experience, a universal and necessary proposition. Kant says:—"The union of presentations in a consciousness is a judgement." The union and co ordination of perceptions into judgement is effected through the categories (the various species of synthesis) resident in the understanding, Kant starts from a fourfold division of judgements and finds four groups of categories corresponding to them which he reduces finally to one only, *viz.* Causation.

To sum up:- Nature is a system of sensations experienced by us in the forms of Space and Time and brought into relation and comprehension under the leading category of Causation. In Dr. Deussen's words. "The perception of the material world and so, the material world itself, arises through the understanding projecting its affections, by means of Causality in Space and Time." And again:—"The world as far as it is extended in space running on in time, ruled throughout by Causality, in so far is only a representation of my mind and nothing beyond it."

This theory of the world of matter is not far from Buddhistic idealism *minus* the necessary and congruent postulate of *momentariness* (Kshanikatva). To the Vedantin, as to Kant, the world is conditioned. But to the Vedantin, the external world exists apart from the percipient mind, and is not simply a "representation"—to use Dr. Deussen's word—of the mind. The mind, going out through the senses, is cast into, or assumes the form of the external object, as water flowing into a field assumes the form of the field. Form exists, not in the mind, but in the external object. The Vedantin is a realist, not an idealist, and believes in the existence—the independent existence—of a world outside the perceiving mind. Its existence, while independent of the perceiving mind, is liable to be stultified at some time or other for the perceiving mind which is enlightened, but exists for other minds not so enlightened. Still it is neither momentary existence *Kshanikatva* as with the Buddhist, nor permanent reality as with the Buddhist, but conditioned phenomenal existence (Apekshika Nityatva), liable to be stultified as above stated. Kant rightly calls it conditioned but he stultifies himself by denying its existence apart from the perceiving mind. So, his doctrine is not different from idealism. We think that Jacobi was quite right when he held that Kant ought consistently to have embraced only a pure idealism.

To the Vedantin on the other hand, the world is real, though not in the absolute sense in which Brahman is real and its nature and attributes determine the knowledge of it gained by the human mind through the medium of the senses. All objects exist outside in their own right and apart from the mind of man. Man only cognises them. As objects differ cognitions differ: not *vice versa*. Sankara is never tired of repeating "Knowledge is relative to the objects known." Hence all Advaitins are realists Though no world can exist for him who has realised the Atman, it does not cease to exist for others and hence the world is real (*Satya*). It is not a mere creature of the mind. Even for him who has realised the Atman the world has *Anuvritti i. e.* it exists as before and is known as before, when the *gnani* returns from his more or less transitory moods of self realisation to his ordinary state of perceptive cognition of the external world. Sankara calls this "the recurrence of what has been stultified," and he always distingnishes two kinds of realities—"the relative reality of the world and the absolute reality of the Atman.".

Dr. Deussen raises the question:—Whence come the senses, mind and the vital principle which form the vehicles of outgoing perceptions and activities and conceal the absolute self of man? The Vedantin answers *Avidya*, and to this the Doctor agrees But he proceeds as follows:—"From where comes this Avidya, this primal cause of ignorance, sin and misery? Here all philosophers in India and Greece and everywhere have been defective until Kant came to show us that the whole question is inadmissible. You ask for the cause of Avidya but it has no cause; for causality goes only so far as this world of Samsara

goes connecting each link of it with another but never beyond Samsara, and its fundamental characteristic, this avidya !"

It is here that we pass to the third division of Kant's transcendental philosophy—the Dialectic, which deals with Reason or the faculty of Ideas, which takes man beyond the conditions of the world of experience to the search after the Absolute, the Infinite and the Unconditioned. According to Kant we can have no direct knowledge of the Unconditioned. But the search, natural to man after a source or cause for the matter of our knowledge, leads us to something beyond experience to the realm of the Unconditioned or Thing-in-itself. Kant says that when we begin to apply our reason to the comprehension of that realm, we are involved in speculative contradictions. We can put forward these antitheses, both equally possible and well-accredited of which both cannot be false nor both true. Kant gives many examples of Paralogisms and antinomies in which we are involved when our reason penetrates or tries to penetrate into the truth of the Ideas of God, Soul, Freedom the origin and the constitution of the world etc. These Ideas form the conditions of thought and experience, and so our pure thought and experience cannot soar into the realm of the Unconditioned and determine the nature of the Ideas postulated by man's faculty of reason. They, however come in as assumptions of the practical, as distinguished from Theoretical, Reason, and to satisfy the needs of practical life. They guide and regulate our progress within the sphere of thought and experience in life.

Now all this is unsatisfactory A confession of impotence to explain what is the cuuse of Avidya and how we arrive at the ideas included in the realm of the Unconditioned cannot satisfy the human mind which is bent on the search after truth. In the first place, the Vedantin demurs to the idea that there is no source of the knowledge of truth beyond man's reason ; nor can he admit that reason, whether practical or theoretical, can enable us to postulate even the existence of a realm of the Unconditioned, and much less of the Ideas forming the contents of that realm. The Vedantin holds that the Veda is the true source of knowledge concerning the realm of the Unconditioned and the Ideas of God, Soul, and the world. Sankaracharya says of certain philosophers that having learned from the Veda of the existence of Atman and mastered the secular arguments advanced there in suppport of it, they slowly persuade or delude themselves into the belief that those arguments emanated from their own minds and declare that the Atman can be established purely by perceptional experience and independent ratiocination, and without the aid of the Veda. This is true of philosophers elsewhere quite as much as of the rationalistic thinkers of India that the unaided and primordial reason of man truly discovered the Supreme Being, personal or impersonal, and the means to reach Him cannot be satisfactorfly established. All who are aware of the import and value of " Sabda Pramana " (Veda) must know that it is alone the eternal witness to the reality of the Atman and the source of its realisation as of the nature of Knowledge and Bliss. This knowledge has in course of time spread over the world and become part of the life and needs of our race.

In the second place, to the Vedantin at least, the search after truth is a means, not an end in itself. Avidya is the primal cause of ignorance, sin and misery. Get rid of it, and we get rid of ignorance, sin and misery. There is need only we get rid of it, not to enquire into cause or origin. Where a person is suffering from a fell disease, and there is a physician near by who is known to be able to cure it, no man of sense will miss the opportunity or waste his time and energy in the inquiry into the origin of the disease. Similarly, Avidya is the malady which brings misery to us all, and it can be cured by the Guru who has and can impart the Vidya gained from the Vedic text which teaches unity of the Supreme Atman and its identity with the Jivatman, Thus, while the alleged superiority of Kant's doctrine as an explanation of Avidya has been shown to be illusory and futile, it is entirely defective on its practical side. He has not the least inkling or dream of the Vidya which teaches the unity of the Atman as the goal of Samsara. So his philosophy can offer no balm for the healing of human misery, while the Vedantin's knowledge of the unity of the Supreme Atman and its identity with the human soul is the great panacea for all the ills of the flesh and secures to man the Eternal Bliss which passeth all understanding—the Brahmananda of the Upanishads.—" *The Hindu*"

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Vol. III. **The Collegian** No. 3

AND PROGRESS OF INDIA.

CALCUTTA, SATURDAY, NOVEMBER 16, 1912.

Sir Thomas Holland on Indian Education

SIR THOMAS HOLLAND in a letter to Prof. N. N. Dey, writes: "In the problems of administration, the early British officials in India took the local circumstances into account and adopted methods to suit the local habits and temper. The same thought does not appear to have been given always to educational methods, and, although the result has been progress, the progress has not been of a kind and amount entirely satisfactory. During my last visit to India, however, I noticed a tone among the educational products of Calcutta which showed how rapidly Indian institutions can respond to careful treatment. When it is realised in the country that the individuality of Colleges will make a greater mark on the life of the student than that of composite Universities, you will find Indian education being regarded as a system to be admired rather than to be criticised."

We are thankful to Sir Thomas for the deep interest he still takes in India and Indian Education and we repeat, what we once remarked, that these opinions coming from a practical educationist should be duly pondered over by the Educational authorities in this country.

* * *

The place of vernaculars in Higher Education

If there is anything that retards the progress of education in India it is the compulsion to learn every subject through a tongue that is not the pupils' mother-language. It is this that explains the lack of originality in our student folk and accounts for the abstract, unpractical turn of mind that characterises the educated section of the Indian community. It is therefore in the fitness of things that Prof. B. K. Sarkar the advocate of the theory that the student should be regarded not merely as a learner but as "the *discoverer* of truths and a pioneer of learning" should in his *Educational Creed* give due importance to the vernaculars. We refer to the following two articles in the *creed*:

1. The mother-tongue must be made the medium of instruction in all subjects and through all standards. And if in India the provincial

languages are really inadequate and poor the educationists must make it a point to develop and enrich them within the shortest possible time by a system of patronage and endowments on the 'protective principle.'

2. Two Foreign languages besides English and at least two provincial vernaculars must be made compulsory for all *higher culture* in India.

If education be throughout carried on in the student's mother tongue, the introduction of so many languages in the Higher courses of Indian Universities as compulsory for M. A or Ph. D. requirements would certainly not be a great hardship to scholars. A knowledge of the vernaculars may be demanded of every candidate for graduation as B. A, or B. Sc., while the foreign language may be put in among the requirements for higher Degrees.

* * *

Education in Ceylon

In our Educational Map we could not supply the educational statistics of Ceylon. Revd. H. Highfield, Principal of the Wesley College, Columbo has written to us, "I venture to supply you with statistics for Ceylon. The total population at the 1911 Census was 4,106,350 persons and I find that the totals between 5 and 25 (between 7 and 27 are not obtainable I believe) are Males 932,342, Females 875, 158 or together 1807500. The Director of Public Instruction gives in his 1911 Report 336,374 children in the schools. This works up to roughly 1 in 21 of the total population all in schools and out of every thousand between 5and 25,187 are attending schools. We however in Ceylon feel that it would be absurd in any country to demand 20 years of education from each individual which, unless your statement on page 3 (October No. 1, Collegian) is subject to material manipulation, is apparently what you in India are demanding. We think that an average of 5years should be enough to produce a literate and therefore would divide our total of 1,807,500 by 4 obtaining 451875 as approximately the total of those who ought to be in school. In consquence we claim to be educating about 75% of those who ought to be educated."

We are much obliged to Revd. Highfield for his letter, and we are glad to note that Ceylon is making so much progress in education. Rev. Highfield thinks that we demand 20 years of education because we took the school & college going population between the ages 7 & 27 ; in reply we would point out that the statement could not be made in a different way for our object is to include all the school and college going pupils, many of the latter are seen to attain age 30 even [vide Results of University Exams.]. Our object in this Map which is only the first of a series) is to compare the Educational progress of India with those of other countries. In future Maps we would deal separately with the Educational Progress (1) between the ages of 7 & 12, i.e. the number which ought to receive primary education, (2) between the ages 12 and 20 —period for secondary andCollege Education and (3) above age 20. We are sorry we do not fully understand Rev. Highfield's last sentence. He divides the population between ages 5 and 25 by 4 in order to get the number that ought to be educated and then takes the number at schools from the Director's report without giving their ages. We shall be glad to know the exact population between 5 and 10, 10 and 15, 15 and 20 and the number under instruction for each head.

Science Division in our Journal

We beg to draw the attention of our readers to the series of articles that would appear in the Science Division of this journal, only the first of which has appeared in this issue. The writer of this article (Chemistry in everyday life) Mr. J. N. Rakshit has already made a name by his original chemical investigations. Being one of the most favourite pupils of Dr. P. C. Ray of the Presidency College Calcutta, Mr. Rakshit is a painstaking youngman always trying to do something original and think independently. Several of his original chemical memoirs have been published by the Chemical Society of London and fully appreciated by theEnglish and European Chemists.

The Ramanathan College, Jaffna Ceylon.

We have pleasure in announcing that the Hon. Mr. Ramanathan's College in Jaffna for Hindu girls, which has been in the course of construction for two and a half years, will be completed this month. It will accommodate 250 boarders and about 500 day scholars. The buildings are arranged around an open quadrangle of 150 ft. square The ground on which the college stands, consist of about 25 acres. It occupies a central position in the peninsula of Jaffna. The Lady Principal of this college Mrs. Florence Farr Emery who is a graduate of the famous Cheltenham Ladies College in England has just arrived in Colombo. It will not be out of place here to inform our readers about particulars regarding the Hon. Mr. Ramanathan the founder of the College.

Mr. Ponnambalam Ramanathan, C. M. G. (1887), K. C, was born in Colombo in the year 1851, 2nd. son of A. Ponnambalam, Mudaliyar of the Governor's gate. He was educated at the Academy Colombo and the Madras Presidency College, was enrolled as an advocate of the Supreme Court of Ceylon in 1873, and was unofficial member of the Governor's Legislative council 1879-92. He was called, *honoris causa*, to the English bar by the Hon. Benchers of the Inner Temple, 1886., acted three times as Attorney General of Ceylon, 1894,'96,'97, was H. M's Solicitor General, Ceylon 1892-1906 ; he was deputed by the government as a delegate from Ceylon to England at Queen-Victoria's Diamond Jubilee in 1897.

* * *

School and College fees.

At the annual presentation of prizes at the Poona High School the hon. Mr. Claude Hill delivered an interesting speech and dealt with the question of raising school and college fees. In his view it was necessary to raise the fees in order to set free more of the public revenues for the extension of primary education. Mr. Hill cited the example of England where a large class of the population paid the whole cost of the higher education of their sons and daughters thus rendering it an easy matter for the Government to meet the costs of free and compulsory primary education. Mr. Hill observed :

It is a matter of personal pride to parents from this large class—often not at all well-to-do, to give their children the best possible education at their own expense, even when it actually means privation in their own homes. Consequently the Government in England, though it helps local bodies in providing means for the higher education of those unable to pay for it completely, is freed from any expense in connection with a large preponderance of public schools and universities in the country. Supposing such were the case here in India too. Supposing that you, the well-to-do parents, were willing to do the same. Why then, we should be able to advance much more rapidly towards the ideal of Mr. Gokhale—one village one school, and primary education free—since we should be relieved from the cost of maintaining, or, aiding the maintenance of a large number of high schools and Colleges.

In making the above observation and contrasting the willingness of English parents with the unwillingness of Indian parents to undergo large sacrifices for the education of their sons, Mr. Hill, like many other Englishmen, forgets that in England the fields for the lucrative employment of educated men are vast and manifold and that in that country expenditure on the education of sons is a form of investment which pays handsomely, while the conditions in India are not yet so attractive as regards employment as to offer a simliar inducement for large expenditure on education.

The argument, that the Government will thereby be enabled to advance rapidly towards the goal of free and compulsory primary education if it is relieved of its present financial responsibility towards higher education, is as weak as it is unconvincing for it assumes that its responsibility is too heavy and that the money saved to the Government by the raising of fees will be sufficient for the purpose of dissemination of primary education to the extent desired, assumptions which very few will agree to.

Professor Charles R. Henderson

PROF. CHARLES R. HENDERSON, PH. D., Head of the Department of Practical Sociology in the University of Chicago, America and the Barrows Lecturer for 1912, will deliver six lectures on "The Social programmes in the west" in Overtoun Hall, 86, College Street, Calctta at 6 P.M. daily, beginning November the 25th and ending Saturday the 30th. The lectureship was founded by Mrs. Haskell of Chicago who in 1892 gave Chicago University twenty thousand dollars for the foundation of a visiting lectureship in India. The promotion of the highest interest of humanity was one of the purposes of Mrs. Haskell in founding the lectureship.

* * *

Maharashtra Literary Conference

At the Maharashtra Literary Conference which was held at Akola on the 29th October 1912, Mr. Hari Narayan Apte the well known Deccani novelist presided. He contested in his inaugural address the three charges levelled by critics against marathi literature namely, that it was not progressive, that it was being flooded with light literature of poor quality and that it was being undesirably influenced by the importation of foreign words ideas and thought.

* * *

The Astronomical Society.

The annual general meeting of the Astronomical Society was held in the Imperial Secretariat, Treasury Buildings Calcutta under the presidency of Mr. Tomkins, President of the Society. The report showed that during the year the number of members increased from 47 to 244 and there was a remarkable addition to the library, which now contained 200 books. The accounts showed a credit of Rs. 2,320 and a debit of Rs. 1,864 thus leaving a balance of Rs. 459 in hand. The president congratulated the Society on its satisfactory progress. Many people he said became members out of curiosity while others only followed the examples of friends and companions. The Society had paid its way and had a balance in hand. Referring to amateurs in the field of astronomy the speaker observed that those in England might be counted by thousands while in India they are really non-existent, There was no foundation in truth for the theory that there was very little left for astronomers to discover. In his opinion, there was much scope for discovery and anyone who sought must find. The following office-bearers were elected :—Mr. W. J. Simmons—President. (1) H. H. Maharaja Rana Bahadur Sir Bhowani Sing. (2) Col. S. J. Burrard. (3) Mr. J. Evershed. (4) Mr. Mitchie Smith—Vice-President. Dr. E. P. Harrison and Mr. C. V. Raman—Secretaries.

The Jayaji Pratap.

The Birthday Number of the 'Jayaji Pratap', a weekly Journal from Gwalior, has been issued on the 14th of November 1912, the 37th birthday of His Highness Maharaja of Gwalior. The number is sumptuously brought out with numerous plates and hotos.

THE UNIVERSITIES.

MADRAS UNIVERSITY.

Fellows

THE Chancellor of the University of Madras is pleased to nominate the following gentleman to be an Ordinary Fellow of the Madras University with effect from the 29th December 1912 :—

The Hon'ble Mr. Justice P. R. Sundara Aiyar B.A., B.L.

Major A. Miller, I.M.S., and Mr. S. P. Chandrasekhara Iyer have been elected Fellows of the Madras University by the Medical Faculty, at the election which took place on the 9th November, Messrs. K. V. Rangaswamy Iyengar and G. A. Natesan by the registered Graduates.

THE SENATE MEETING.

The Govt. of India grants.

IN our last issue we noticed that the Senate went into committee to discuss in detail the recommendations of the Syndicate regarding the Govt. of India grants. In the committee stage the following resolutions were carried :—(1) The resolution relating to the allotment of Rs. 50,000 for the institution of a Professorship in Indian Economics was carried. (2) The proposal to allot Rs. 12000 for courses of lectures of an advanced character by specialists from Europe and in India was sanctioned. (3) The allotment of Rs. 6000 a year for a University Profesorship in Indian History and Archæology at as salary of Rs. 500-50-1000 initial expenditure was sanctioned. (4) The resolution relating to the University Profesorships of Sanskrit, Tamil and Telugu was altered thus and carried : "For the Development of study, on modern lines of Indian languages and especially languages of South India—Rs. 36,000. "That the Senate remit to the Committee of the Senate appointed on the 2nd March 1912 to consider and report upon the position occupied by languages other than English in the various courses of study, the consideration of the best methods of utilising the sum of Rs. 36,000 which it is proposed to devote to the developement upon modern lines of the languages of India and especially of South India and that Mr. Justice Abdur Rahim and Mr. Azizuddin be added to the Committee."

The Senate went out of committee and the original meeting continued.

The Resolutions relating (1) to the inclusion of Uriya in the list of languages specified in Group I for the Oriental Title Examination (2) to the lightening of some work of the students for the Honours Course, (3) to the widening of the range of selection of books for Persian and Urdu Examinations and (4) to the holding of F.L, and B.L. Examinations in Madras and Mofussil centres were also carried.

The affiliation of the Pachaiyappa's College, Madras in Group II A of the Courses for the B.A., Degree Examination, recommended by the Syndicate was approved by the Senate. The affiliation of the Coimbatore College in Group III (Sanskrit, Tamil and Malayalam) of the Intermediate courses of study was granted, provided the authorities of the Coimbatore College give an undertaking that the teaching of Malayalam and Sanskrit will be supervised by a graduate."

Regulations in Medicine.

SEVERAL alterations recommended by the faculty of Medicine were passed, the most important ones being the holding of the first L. M. & S. Examination twice a year, and introduction of the Degrees of Doctor of Medicine and Master of Surgery. Full Syllabus is given below.

New Degrees of Doctor of Medicine & Master of Surgery.

THE following regulations were added to the existing Regulations of Medicine consequent upon the introduction of the two new degrees of Doctor of Medicine & Master of Sugery.

DOCTOR OF MEDICINE.
(IN MEDICINE AND MIDWIFERY.)

305. (*a*) An examination for the degree of Doctor of Medicine shall be held in Madras once a year commencing on the fourth Monday in April.

(*b*) No candidate shall be admitted to this examination unless he produces a certificate in the form hereinafter prescribed showing that

(1) he, having passed the M. B. & B. S. degree examination of this University, has been engaged for three years continuously in the practice of the Medical profession,

or

(2) he, after qualifying for his M. B. & B. S. Degree, has passed two years in hospital practice,

or

(3) he, having passed his M. B. & B. S. degree examination in the first class, has passed one year in hospital practice.

(*c*) Each candidate must produce with his Medical diploma a testimonial, signed by at least two Doctors of Medicine, or two Masters of Surgery, or two Fellows of the University, certifying that he is in habits and character a fit and proper person to receive the degree of Doctor of Medicine.

306. (*a*) Applications for admission to the examination for the degree of Doctor of Medicine. in the form prescribed, together with the certi-

ficate and testimonial above referred to, shall be forwarded so as to reach the Registar not later than the 1st February preceding.

(*b*) Every candidate shall forward with his application a fee of one hundred rupees. No candidate who fails to pass or present himself for examination shall be entitled to claim a refund of the fee.

(*c*) No candidate shall be admitted to the examination until he has been registered.

No candidate shall be registered until he has paid the prescribed fee. A candidate shall be registered afresh an each occasion on which he presents himself for examination.

307. (*a*) Candidates shall be examined in one of the following branches : —

Branch I *Medicine* (including Mental Diseases and Pathology)

(*a*) Medicine (including Mental Diseases and Therapeutics) – two papers, one of which may consist of a case for written commentary.

(*b*) Pathology—one paper.

(*c*) A Clinical and Oral Examination with the examination of Pathological specimens,

Branch II—*Midwifery* including Diseases of Women—

(*a*) Midwifery and Diseases of Women – two papers, one of which may be a subject for commentary.

(*b*) Pathology of subjects ; 'Midwifery and Diseases of Women.'

(*c*) A Clinical and Oral Examination with the examination Pathological specimens.

Branch III -*Pathology*—

(*a*) Medicine—one paper.

(*b*) Pathology—two papers (one of which may be an essay on one of two subjects in Pathology.)

(*c*) A Museum and Laboratory Examination.

Branch IV— ***Tropical Medicine***—

(*a*) Medicine—one paper.

(*b*) Tropical Medicine—one paper.

(*c*) Pathology of Tropical Diseases—one paper.

(*d*) A Clinical and Oral examination with the the examination of Tropical-Pathological specimens.

Candidates shall not be approved by the examiners unless they have shown a competent knowledge in all the subjects of the examination.

(*b*) A candidate who has already passed the examination in one branch may, before he takes the degree, appear on a subsequent occasion in another branch, but no candidate may appear for the examination in two branches in the same year.

308. The examination shall be conducted in the order of time and the subjects set forth in the following tables :—

BRANCH I.

Days	Hours	Subjects
First day ...	10—1 5—2	Medicine, first paper. Medicine second paper.
Second day ...	10—1	Pathology.
Third day ...	10—4	Clinical and Oral Examinations

BRANCH II

Days	Hours	Subjects
First day ...	10—1 2—5	Midwifery, etc., first paper. Midwifery, etc., second paper.
Second day ...	10—1	Pathology.
Third day ...	10—4	Clinical and Oral Examin atin

BRANCH III

Days	Hours	Subjects
First day ...	10—1	Medicine.
Second day ...	10—1 2—5	Pathology, first paper. Pathology, second paper.
Third day ...	10—4	Museum and Laboratory Examination.

BRANCH IV

Days	Hours	Subjects
First day ...	10—1 2—5	Medicine. Tropical Medicine.

Second day ...	10—1	Pathology of Tropical Diseases
Third day ...	10—4	Clinical and Oral Examinations.

309. A diploma under the seal of the University, and signed by the Chancellor, shall be delivered at the next Convocation for conferring degrees to each candidate who, in the opinion of the examiners has qualified for the degree.

MASTER OF SURGERY.

310. (*a*) An examination for the degree of Master of Surgery shall be held in Madras once a year commencing on the fourth Monday in April.

(*b*) No candidate shall be admitted to this examination unless he produces a certificate in the form hereinafter prescribed showing that

(1) he, having passed the M.B. & B.S. degree examination of this University, has been engaged for three years continuously in the practice of the Medical profession.

or

(2) he, after qualifying for his M.B. & B.S. degree; has passed two years in hospital practice,

or

(3) he, having passed his M.B. & B.S, degree examination in the first class, has passed one year in hospital practice.

(*c*) Each candidate must produce with his Medical diploma a testimonial, signed by at least two Doctors of Medicine, or two Masters of Surgery or two Fellows of the University, certifying that he is in habits and character a fit and proper person to receive the degree of Master of Surgery.

311. (*a*) Applications for admission to the examination for the degree of Master of Surgery, in the form prescribed, together with the certificate and testimonial above referred to, shall be forwarded so as to reach the Registrar not later than the 1st February preceding.

(*b*) Every candidate shall forward with his application a fee of one hundred rupees. No candidate who fails to pass or present himself for examination shall be entitled to claim a retund of the fee.

(*c*) No candidate shall be admitted to the examination until he has been registered.

No candidate shall be registered until he has paid the prescribed fee. A candidate shall be registered afresh on each occasion on which he presents himself for examination.

312. (*a*) Candidates shall be examined in

(1) Surgery—two papers, one of which may be a subject for commentary.

(2) Surgical Anatomy and Pathology—one paper.

(3) One of the following special subjects—one paper :—

(i) Ophthalmology.
(ii) Venereal and Genito-Urinary Surgery.
(iii) Gynecological Surgery.
(iv) Aural and Laryngeal Surgery.
(v) Dental Surgery.

(4) Operative Surgery and the use of instruments.

(5) A Clinical and Oral Examination with the examination of Pathological specimens.

Candidates shall not be approved by the examiners unless they have shown a competent knowledge in all the subjects of the examination.

(*b*) The examination shall be conducted in the order of time and the subjects set forth in the following table :

Days	Hours	Subjects
First day...	10—1	Surgery, first paper.
	2—5	Surgery, second paper.
Second day...	10—1	Surgical Anatomy and Pathology. Special Subject.
	2—5	
Third day...	10—1	Operative Surgery and the use of intruments.
	2—5	Clinical and Oral Examinations.

313. A diploma under the seal of the University, and signed by the Chancellor, shall be delivered at the next Convocation for conferring degrees to each candidate who, in the opinion of the examiners, has qualified for the degree.

Forms of Certificate (to be inserted in Regulation 391)

Doctor of Medicine or *Master of Surgery*

(*a*) I certify that..... .....has been continuously engaged in the practice of the medical profession since passing the M. B. & B. S. Degree examination of the University of Madras in the year 19.....

Station..... *Signature*.....
Date..... *Fellow of the University of Madras.*

(*b*) I certify that.....has been engaged for.....year in hospital practice since passing the M. B. & B. S. degree examination of the Uuiversity of Madras in the year 19...

Date..... *Signature*.....
Physician or Surgeon } ..... *Hospital.*

The following awards of scholarships and prizes have been made by the Syndicate :—

Name of scholarship or prize.—

1. Sir T. Madhava Rau first prize.
   Ditto Second prize.
2. Sir T. Muttuswami Aiyar Memorial Scholar-
3. Anne Isabella Subrahmanyam Scholarship.
4. V. Rama Aiyangar M. A. Scholarship.

To whom awarded.—

1. N. R. Kedari Rau, Government College, Kumba-konam.
   D. Krishnamurti, Presidency College.
2. A. Anantaraman, Law College, Madras and private study.
3. Mrs. Mary Ratnam Isaac, Madras Medical College.
4. P. Yegnesvaran, St. Joseph's College, Trichinopoly.

BOMBAY UNIVERSITY.

Examiners :—

Matric. Compulsory English :—A. L. Covernton M.A., P. Wren M.A., Rev. A. Danby M.A., B.D., Miss Edith Hoffguard, H.R.H. Wilkinson, T.A. Savage. Sanskrit—Rao Bahadur K. P. Trivedi B.A. V. S. Ghate M.A. Latin Rev. Robert Strachan M.A. B.D. Hebrew—J. E. Solomon. Arabic—Shaikh Faizullabhai I. Mulla. French—P. L. Charli and Rev. V. Hommel. Avesta & Pahlavi B.N. Dhabhar M.A. Persian—Mirza Ali Reza Khan H.M. Gurbaxani. Pali—R.G. Bhadkamkar, M.A., D. Kosambi. Marathi—P. B. Joshi F.R.G.S. Gujrathi—Manmukhram K. Mehta B.A. LL.B. Kanarese—A. K. Pai, B.A. Hindusthani—K. Dilwali M.A. Sindhi—T.L. Vasvani, M.A. Portugese—J. P. DeQuadres B.A. LL.B. Optional English A. X. Soares M.A. LL.B. Shivin S. Paruck M.A. Math—Khan Bahadur Jamshidji A. Dalal M.A. N. B. Pendse M.A. H. V. Athavale B.A. V. G. Dalvi B.A. Hist. & Geog.—Mirza Ali Akbar Khan B.A., Bomanji J. Wada. M. S. Commissariat M.A. Elem. Science—B. E. Ghasvala L.M.S. H. K. Mehta M.A.B.Sc., A. J. Turner B.Sc. F.L.C.

Previous exam. English...V. K. Rajavadu, M.A., Rev. W. G. Robertson, M.A., Rev. Robert Strachan, M.A., James Scott, M.A.

Intermediate English... Rev. J. Dwine, S.J., Rev. John McKenjee, M.A. Sanskrit...N. S. Pause, P. V. Kane. Latin...Rev. A. Acliuger, N. S. Takakhar. Arabic...Shaikh, F. L. Mulla. Persian...Md. Abbas, A. S. Shah. Pali...R. G. Bhadkamkas, D. Kosambi.

Previous (Math.)...Rao Sahib, B. J. Naik, Rev. J. Degen, J. C. Seraminarayan, B. D. Andich.

Intermediate (Math)...R. P. Paranjpye and John Maclean.

F. F. S. E. (Civil)...A. C. L. Wilkinson, D. D. Kapadia.

History...O. V. Muller, N. G. Welinkar, M.A., N. S. Takakhar, H. G .Limaye. Physics Int.... K. R. Kanidkar, Rev. A. Steichen, F. E., S. E.... S. G. Burrows, S. B. Butani. Physics Paper I and Mech...R. S. Cru Brown, B. Sc., A. M. I. C. E. Joseph Hall, M. I. C. E., M. I. Mech I. Logic...Rev. J. R. Cuthbert, V. A. Sukhtankar. Chem .C. J. J Fox, Alex. R. Normand. Biology. A. M. Masani, V. N. Hati, Rev. J. Assimuth, J. P. Mullan. Drawing at F. E....S. K. Pimpalkham, Joseph Hul. Engineering and English Division...H. J. Unvala, K. S. Framji, B.A., LL.D.

The B.A. B.Sc. L.C.E. & B.E. Exams. begin Monday 18th Nov.

Examiners :

B,A. B.Sc. L.C.E, B.E. English—..A. B. Clarke, H.G. Rawlinson. Sanskrit.—H. M. Bhadkamkar, B. A. Arte. Hist and Pol. Econ.—S. H. Hodivala & Rev. A. Vaeth, S. L. Joshi. Logic & Moral Phil.—Rev. J. R. Cuthbert, V. A. Sukhtankar Ph.D. Mathe—Paranjper & John Maclean. B.A. Chem.—C. J. J. Fox, M. A. Masani. B. Sc. Chem & L. C. E. Metallurcy - J Fox & A.R. Normand. Physics B.A. B.Sc. K. R. Kanitkar and Rev. A. Steichen. Physics L.C.E. S. G. Burrow and S. B. Butani. Botany—V. N. Hati, J. P. Mullan. Zoology—A. M. Masani, Rev. J. Assmuth. Geology & Mining : M. K. Kanga, H. M. Page F.L.C. F.G.S. Animal Physiology—Major L. T. Rose Hutchinson. R. Row. M. D. Engineering and Arch. at L.C.E. and Mech at yB.E. R. S. Brown, Joseph Hall. Hydraulies, Irrigation Drawing, B. E. Project Water Supply, San. E....K. S. Framjee and Joseph Hall. Metch. Eng. and Pimer Move....N. B.Macmillan, T. S. Dawson. San. Eng. at L. C. E. N. Maughan K. S. Framji.

The M.A. Second LL.B. LL.M. L.M.S. B.Hy. and M.D. Exams. will begin from Monday 25th November.

M,A, English....A. L. Covernton and H. L. D. Turmoul. Sans. S. R. Bhandarkar, A. B. Dhruva. Latin Rev. A. Allingh, H. G. Rawlinson. French Charlier and. Hommell Persian. Shaikh A. K. Surfraz. Marathi H. N. Apti. G. K. Devdhar. History...O. V. Muller, Rev. C. Flink. Philo....G. C. Bhati. Rev. Alex. Robertson, Mathe....R. P. Paranjpye and A. C. L. Wilkinson. Phys....Rev. D. Mackichan and Rev. A. Steichen. Chem....Dr. H. H. Mann, Alex R. Normand. Nat. Science A. M. Masani Rev. J. Assmuth.

Second LL. B. T. M. Kajiji, M.A.LL.B., J. R. Gharpur, Sitaram S. Patkur.

LL. M. Branch II Hindu Law...Dinshah F. Mullah, M. R. Jayakar.

Branch IV (Contracts Tortsek) Rustam K. R. Cama and H. Mulla.

Med and Patho...A. G. Viegas and Major Gordon Tucker.

L. M.S. Midwifery and diseases of women & children...Major Evans and David Judah.

Surgery...H. I. Jan Mahomed M.D. & R. J. L. Sladen F.R.C.S.

Med. Jur. ...B. E. Ghasvala and Sorab K. Nariman.

Surgery...Lt.-Col. Street and V. N. Chitale Bhajekar.

Final M, B, B, S, Midwifery and Diseases of women and children...N. A. Purandan, S. J. Meheromji.

Ophthalmology...Major McPherson.

B. Hy....Major Hutchinson and Sorab. K Nariman.

Br. I. Medicine...Lt.-Col. C. H. L. Meyer, L. F. Childe.

M, D, Br. II. Midwifery...Lt.-Col. M. Collie, Major S.C. Evans.

Br. III. San. Sc....Major Hutchinson.

M.S.. Lt.-Col. A. Street & Major T. S. Novis.

PUNJAB UNIVERSITY.

The following changes in Regulations made by Senate have been sanctioned by Government.

Everything same except:...Addition of subject

B, A, No. (8) Astronomy with *Optics* and *Spherical Trigonometry* (150 marks). (2) Pure Mathematics (3) Appl. Math. and (7) Phys. Chem. No candidate shall take (8) unless with (2), (3) or (7).

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6. Every candidate shall be required to take up four subjects. I....Principles of

B, T, Education. II....Methods of Teaching. III....Fuller Study of Methods of teaching on selected subjects. IV.... Practical Skill in teaching.

7. Written Examination:...1st Paper...Principles of Education. The Psychological, logical and Ethical Bases of Ed. 2nd Paper...The Application of these principles to School work School organisation and management. 3rd Paper... Methods of teaching. 4th Paper...Methods of teaching (selected subjects.) Practical Examination (same as before).

8. Scale of marks. Psychological Bases of Ed....100. School management...50. Methods of Teaching...50. Methods of teaching Selected Subjects,...100. Practical Skill in Teaching...200.

B. Sc. 2. (*a*) ii. Candidates who have passed the Intermediate Arts or Science Examination, will be admitted to the B. Sc. Exam.

'4. Subjects for study: English and any one of the groups. (*a*) Phys. and Chemistry (*b*) Botany Zoology (*c*) Geology and Mineralogy (*d*) Phisyology and Chemistry (*e*) Bot. and Chem. (*f*) Botany and Physiology. (*g*) Zoology and Physiology. Provided that a candidate shall not take up any Science subject unless he has taken the corresponding subject in Int. Exam. and provided that he shall not take up group (*a*) unless he has also taken up Math. in Int. Exam.'

'5. Scale of Marks:...English, 150. In each of the groups 300...150 for each subject.'

M, Sc. '2 (*a*) i.—Or (2) in the case of a candidate who is a Bachelor of Arts of University of Punjab or (subject to sanction of syndicate) of any other University and has taken Physics or Chemistry in Bach. of Arts Examination.

'4. Subjects (1) Physics. (2 Chemistry. (3) Zoology and Comparative Anatomy. 4) Botany. (5) Geology (6) Physiology.'

ALLAHABAD UNIVERSITY.

The following gentlemen have been appointed Fellows of Allahabad University: Rao

Fellows Bahadur Sadasheo Jairam Dehadri; Major E. A. O'Meara I. M. S.; Major C. A. Sprewson, I. M. S.; Pandit Rama Sankar Misra; Mr. Justice Muhammad Rafiq Haki; Nawab Muhammad Ismail Khan; Rev. Mr. M. S. Douglas; Mr. J. H. Alderson; Mr. P. H. Edwards; Hon. Mr. R. Burn and Dr. Ziauddin Ahmad.

THE COLLEGES AND SCHOOLS.

Midnapur College

THIS year the College has attracted a very large number of students and so the question of sufficient accommodation or the institution has become more than ever. There has been a proposal to remove the College to the present Hostel Building, and to build new Hostels for the College and the School separately one marked feature of the new admissions of the current year have been that all the students except two belong to this district. This more than any thing else shows that this old educational institution satisfies a real want of the district.

Most of the students here take up Logic as one of the optional subjects, and this year there has not been a single exception. A new Society has been started, as the future college union, under the name of "The Midnapur College Logical Society" and with Mr. M. N. Roy, M.A., Professor of Logic, as President, and Pundit I. C. Chatterjee Kavyaratna Professor of Sanskrit, as Honorary Secretary. The objects of the Society are the promotion of friendly association between the Professors and the students, and the encouragement of independent investigation among the latter.

The Second monthly meeting of the Society took place on the 21st September last and some able papers on various subjects were read. Sreeman Bipinbehary Das's paper on "Formation of Character" was much above the average and fully in keeping with his reputation as the winner of of the largest number of gold and silver medals on the last Prize Day of the College; Sreeman Dibendranath Mitra's "Translation of the first two Sections of Jevons' Primer of Logic" was a very successful attempt in this new line; and Sreeman Dasarathi Pati, himself a high class Brahmin, showed in his essay on "The Bengali Brahmins Community" that he can think for himself and clothes his thoughts in cheer, accurate, and eloquent Bengali.

Mr. J. N. Hazra, M.A., the new Principal of the College, who is to be warmly congratulated on the attention he has paid to this new aspect of the College life here, graced the meeting by his presence and was much pleased with the performances of his pupils.

Murarichand College Sylhet

MR. JOHN RICHARD CUNNINGHAM, the Director of Public Instruction Assam will shortly visit Sylhet to consult public opinion on the proposed site for the Murarichand College on the spot.

Pachaiyappa's College, Madras,

UNDER the auspices of the History Association of the Pachaiyappa's College, a lecture was delivered by Mr. M. R. Sundram Aiyar, B.A., B.L. High Court Vakil, when the Hon'ble Sir Harold Stuart presided. The meeting was fairly well attended in spite of the fact that many of the higher College class students have left the city for their homes on account of Deepavali festival. Among the gentlemen present were the Hon'ble Mr. Corbet (the Advocate General), Messrs. S. Srinivasa Iyengar, C. P. Ramaswamy Aiyar, B. Narasimha Row, Vidyasagar Pandya,, Appa Row of Vizagapatama, P. Seshadri and K. Ramanuja Chari.

Called upon by the Chairman to deliver his lecture, Mr. Sundram Aiyar delivered an interesting lecture on "Indian Currency Reserves".

Lecture on Indian Currency Reserves

He briefly alluded to the articles that have appeared in the *London Times* with reference to the currency reserves, to the numerous questions asked of Mr. Baker as to the policy of the Government in the matter and to the widespread agitation set on foot for an inquiry and for an answer from the Secretary of State.

He then said:—Economic studies in India depended for their encouragement on the partial recognitions of these subjects in certain University examinations and the chance inspiration of passing events. The problems have not been worked out with any investigation and research. The English writers do not and could not offer any first-hand solution with reference to these questions. (In support of this statement the lecturer quoted Prof. Alfred Marshall's evidence before the Indian Currency Commitee). In India itself the student of Indian economics has to wade through a mass of Currency literature and very often finds his conclusions opposed to those of Western theorists and text book writers and the authorities themselves conflicting and leaves the field in despair under the impression that there are no settled problems in that branch of economic science. Owing to various reasons the problem has often been superficially treated even by European writers on the assumption that the currency legislation in India is often a measure of political expediency. Every change in the currency system has been looked upon with suspicion and distrust as one in the interests of Anglo Indian Official or trader. Economic discontent is more dangerous and insidious in its operations than political discontent.

A reserve fund is money either in the shape of precious metals or securities or both. There are several classes of reserves—banking reserves, currency reserves, political reserves, commercial reserves, war reserves, etc. The form, the magnitude and the constitution of these reserves must vary with the purposes for which they are kept. It may be to meet conversion demands for the purpose of settling foreign trade balances or merely to make the foreign trader know that the country will be able to settle their debit balances with him and to give gold equivalents for silver coins. It may be for serving as a guarantee for the conversion into gold of the silver coinage of the country. It may be generally to support exchange by keeping the parity between gold and silver. It may be to strengthen the

national credit whose advantages are numerous. It may be to meet periods of crisis due to depression of trade, panic, war, etc. It may be for satisfying certain psychological weakness of the human mind which will be confident only when there is hard gold.

The reserves of the Government of India kept for currency purposes generally may be grouped under three heads. First, the Treasury balances from which moneys necessary for the requirements of trade and Government are drawn and Council drafts are issued. Second, the paper currency reserve in the shape of promissory notes called currency notes. The whole amount of currency notes in circulation is secured by a reserve of gold and silver coin or bullion and securities of the Government of India or United Kingdom. The reserves represent, in most cases the irreducible minimum below which the need for currency can never fall. The question what would happen if all the notes were presented at one time for redemption has been answered by banking experience and no country can be subjected to such stress as to part with the entire circulation of notes. The proportion of coin to notes in the total circulation varies according to the bulk of the transactions in the presidency towns and currency centres. The third kind of reserve which has been the subject of much controversy is the gold standard reserve; and the policy of the Government of India with reference to this has been the subject of much mischievous and ignorant criticism. The gold standard reserve or the gold reserve fund partakes in some degree the nature of the paper currency reserve. Whereas the latter has been maintained to ensure the payment in specie when required, the former has been created with the object of assuring the conversion of token silver coins into gold whenever it is necessary. The gold reserve fund was constituted at the recommendation of Fowler's Currency Commitee and accumulated out of the profits of coinage. The currency legislation of 1893 was the establishment of a monetary system. This method has been called the fixity of exchange method by which gold is not made the standard but the large mass of silver coins in circulation is pulled up to or kept at a fixed value by the restriction of the coinage coupled with the offer to give silver coins in exchange for gold at a fixed price.

Speculative influences were brought into operation, and the gold price of silver fell. The process of raising the rupee to the desired exchange value by operations of trade seemed very distant and caused severe stringency in the money market. The policy of gold standard for India was finally adopted by the Government of India. For the speedy establishment of a gold standard the gold reserve fund was started with three objects, (1) to serve as a guarantee for the conversion into gold of the silver coinage, (2) to meet their sterling obligations in the event of the falling of the demand for Council bills, and (3) to support exchange.

A gold reserve for the maintenance of a gold standard arises only in countries where the exchange standard prevails. No reserve is necessary to maintain the standard in countries where there is an automatic self regulating currency system with a free coinage of the metal. But in India where there is a large mass of token coins in circulation, the token coin is only a metallic Bank note whose maintenance of gold par demands on a system of reserves. The gold reserves are also necessary for the settlement of foreign trade obligations, interest on loans and also to support exchange.

Two reserves, one in India and the other in England are necessary and they ought to be mostly in gold. Investment in securities is rather risky and considering the depreciation of British consols and other gilt edged securities, the loss due to depreciation will out-weigh the interest that may accrue from such investments. As London is now the international money market, most of the European countries keep in London a Reserve fund more or less in England. The Mexican and Phillipine reserves are kept in New York. The gold reserve of Japan is kept in London. The location of Indian Reserves in England is not therefore a misappropriation of Indian gold, but a sound financial procedure in consonance with the practice of other countries in Europe. In the interests of India and the Indian taxpayer it would be appropriate if the agitation is directed towards a speedy introduction of a gold currency in India. The exchange standard being only a transitional stage in the evolution of a silver standard into a gold currency, it is better to do away with that transitional system than commence an elaborate enquiry into some of the accidental features of the present system. The agitation set up by the Anglo-Indian trader or banker is not in the interests of the Indian taxpayer and to readily accept and swallow the criticisms of the Anglo-Indian banker will be a suicidal step. There ought to be an influential Indian financial opinion before the Indians take part in the general agitation against the Government with regard to the treatment of the Indian currency reserves. The duty of the Indians in this matter is to help Government with a strong and influential Indian opinion and not handicap them.

The Chairman made the following remarks:—

Sir Harold Stuarts speech

Gentlemen,—As there is not going to be any discussion upon the lecture, I rise to propose on your behalf a very hearty vote of thanks to Mr. Sundaram Aiyar for the lecture he has just delivered. We all know his fitness for discoursing to us on a subject of this kind. It is very pleasing to find that a comparatively young man instead of devoting himself entirely to his profession, can spare a little time to consider and work at public questions.

Before coming to the lecture, I should like to say a few words on its broader aspects. It is, it seems to me, of considerable value that you should have from time to time papers of this kind brought before you in the hope that it may encourage the formation of a School of Indian Political Science. There are circumstances in this country as indicated by Mr. Sundram Aiyar which make the conclusions based upon European conditions either inapplicable or applicable only with reservations and for that reason it is most important that we should have men devoting themselves to a study of Indian conditions with a view to evolving conclusions which will suit those conditions. Mr. Sundram Aiyar was good enough to say that he was nervous of speaking on this subject tonight in my presence. I am afraid that I cannot claim any special knowledge to justify that sentiment on his part. It is true that I have at present confided to me the portfolio of provincial finance; but it has nothing to do with this question of currency or reserves, and my knowledge of the subject has been derived

from my studies as an undergraduate and from what I read in the newspapers from day to day. The subject is one of great public importance and I am sure we are all grateful to Mr. Sundram Aiyar for the very clear way in which he has explained to us the different kinds of reserves that are held by the Government. The Indian Currency Reserve—I do not speak of Treasury Reserves, because outside the special problem—the Indian Currency Reserve is a particularly strong one—in some way stronger than the Bank note Reserve of the Bank of England because part of that Reserve consists of securities which are not so unexceptionable as the Government Securities which are held here as part of the Currency Reserve.

Mr Sundram Aiyar referred to a very interesting problem: "What would happen if all notes were presented on one day". I believe that the reserve in London was fixed in this way. It was found that the minimum issue of bank notes was about 14 or 15 millions and it was thought that the reserves to meet that might safely be held in securities. Every note in use beyond that 15 millions must be based upon actual coin or bullion. I do not know what the system based upon in India—probably on much the same principle but the securities in this country are not those of merchants or commercial securities of any kind.

There was only one point in the lecture to which I propose in a word or two to take exception. Mr. Sundram Aiyar is a little hard on the Anglo-Indian Bankers and the Anglo-Indian merchants. I think with him that these Anglo-Indian merchants in holding that the Gold Reserves should be held in India are wrong. But I don't think with him that their motives are entirely selfish. Their case is—I don't agree with them—their case is that the reserve which is now held in London should be held in this country, because it will then be available in the Presidency Banks for the use of local banks and commerce. The mistake which Mr. Sundram Aiyar made was in assuming that all the money in the Presidency Banks is available only for Anglo-Indian merchants and Bankers That is not so. Anybody that is acquainted with the banking system in this country knows that a very large portion of the business done in the Presidency Bank is done with Indian merchants and Indian ryots. If the proposal in question is a sound one, it would benefit the Indian people as much, perhaps more than it benefits the Anglo-Indian merchants. With this exception I find myself in ver ycordial agreement vith Mr. Sundram Aivar. On your behalf I beg to accord a hearty vote of thanks to him for his most interesting and instructive lecture.

Maharaja's College Trivandrum

The celebration of the 15th College Day took place in the College grounds. The College premises were tastefully decorated with flags, festoons and evergreens. The proceedings began early in the morning with a Tennis Match. Various items of amusements were then gone through. At about 10 o' clock the guests were treated to a sumptuous feast. In the afternoon, the meeting of the past and present students of the College took place in the Hall presided over by Mr. Justice Veeraraghava Iyengar. After an introductory speech from the Chair, Mr. V. A. Ramakrishna Iyer, B. A., B L., a former student of the College, delivered an instructive address to the assembled students. This was followed by another address from one of the present students. Then came the Chairman's concluding remarks. He touched upon the defects in the present system of education and suggested some effective remedies. In the sports part of the programme both present and past students took an enthusiastic part. Tea and light refreshments were served to the guests in the evening. This was followed by a dramatic entertainment by the College students. The function terminated with three cheers for H. H. the Maharajah.

School Fees in Ceylon.

On Friday the 25th October, the Principals of all the Colleges in Jaffna met with the Principal of St. John's College to discuss the question of raising school fees for 1913. It was unanimously agreed to recommend to the governing bodies of the different Colleges that the prevailing rates be advanced by about 25% all round and a definite scale was agreed upon from 75 cents per month for standard I to Rs. 4 per month for the Senior Local A Class. These fees for athletics, laboratory, library etc. It is sincerely to be hoped that those in authority will sanction these rates.

Central College Y. M. C. A. Jaffna

At a meeting of the Literary Branch of the Central College Y. M. C. A., presided over by Rev. W. M. P. Wilkes, B. A., F. C. P., the Principal of Central College, and held in the 10th Inst. at 6 p. m., a lecture on 'The True End of Education was given by Mr. C. Arulambalam, Advocate. The aim of education was said to be the development of the dormant faculties of man. The subject was dealt with under three heads (a) Physical education (b) Intellectual education and (c) Moral education. Physical education aimed at producing a hardy physique and sound nervous system. Emphasis was laid on mental action as affecting health and strength. The object of intellectual education was to train the thinking powers and to stimulate the creative faculty into action. Moral education had in view the formation of high character. Education of the right sort which promoted culture was of great importance to Society since the accumulated culture of individuals advanced national progress. Scientific education should be promoted as it rapidly developed the faculties of man. The Chairman in offering comments referred to the importance of manual training as it developed powers of observation and had a beneficial and stimulating effect on the intellectual powers.

Sri Protap College Srinagar, Kashmir.

The prize distribution of the Sri Protap College and various state schools of Srinagar, Kashmir, took place on the afternoon of the 28th October. Rai Bahadur Dr. A Mitra, Home and Education Minister, was in the chair. There was a large gathering of about 2000 students besides the *elite* of the town. The meeting opened with a prayer by Prof Kanjilal in which the whole meeting took part standing. Then Principal Chakravarthi read his annual report in which he pointed out the exceptional facilities for research in the Indian Vernaculars that exist in the College. The Professor of History Mr. Pillai M. A. (Edin), Bar-at-Law, hailing from Travancore would gladly initiate people in Telugu & Tamil. Mr. Kunte B. A. (Cantab), Professor of Mathe-

matics, who hails from Poona, was willing to teach German & French to people intending to acquaint themselves with the most recent advences in Science & literature. The three Head masters followed with reports of the excellent work that is being done in their Schools. Then prizes more given away to about 250 students. But the most interesting part of the whole ceremony was the concluding address by Dr. Mitra. He pointed out that secular education without proper training of the heart and the will is useless, and enjoined upon all to be religious and moral above all. This address was particularly appropriate as coming from the man who had the courage of his conviction to introduce moral and religious education in all the educational institution of Kashmir, in his capacity as the Minister of Education. The whole of the educational movement in Kashmir is connected with the name of Dr. Mitra.

Then Principal V. Chakravarthi proposed votes of thanks to the chair and to the gentlemen present, which were carried with acclamation.

Khalsa College Amritsar

We are grieved to learn that Professor Nihal Singh of the Khalsa College, sometime, Editor the 'Khalsa Advocate' breathed his last at Amballa on the 26th October. The late Professor was all his life an omnivorous student in the real sense of the word, so much so that his studious habits knew no slackening even at his present fairly advanced age.

D.A.V College Lahore

To facilitate and further the study of Sanskrit, the Dayanand Anglo-Vedic College Lahore, has opened new Sanskrit classes for the "Paryag Visharad" and "Shastri" examinations of the Punjab University like those of the Lahore Oriental College. No fees will be charged. Lodging arragements and scholarships are provided for deserving students.

Queen Mary's College Lahore

At the opening ceremony of the Queen Mary's College for girls, by Lady Hardinge in the presence of ladies only, Lady Dane gave an interesting history of the institution, which is intended to do for girls of high families in the Punjab, what the Aitchison Chiefs College does for their sons, Education given will be strictly under "purdah" and building arrangements secure complete privacy combined with large airy lofty rooms and a "purdah" garden and playing grounds. The institution owes its origin to the application of a large portion of Sarwarna given by Phulkian Chiefs to the Queen-Empress during her tour in India as Princess of Wales, who has always taken most gracious interest in it.

Daly College Indore

For opening the new building of the Daly College. Their Excellencies drove to the Daly College on the 8th November 1912. escorted by a squadron of the 14th Hussars under Major Brown and were received at the entrance by the Principal of the College, Mr. Hide. A procession was drawn up in the vestibule of the College Hall composed of the Ruling Chiefs who had visited His Excellency in the morning and including His Highness the Maharaja Scindia and Her Highness the Nawab Begum of Bhopal who had both come specially to Indore to be present at the opening ceremony. The procession then proceeded the Viceroy through the beautiful and spacious College Hall on to the *dais* at the further end. Mr. Hide welcomed the Viceroy to the Daly College and explained the object of the College and gave an epitome of its history. His Excellency replied:

The Viceroy's Speech

In the Address that he has just read the Principal has given us a most interesting account of the history of this Daly College and of the circumstances which led up to the present ceremony. He has been pleased to use appreciative and grateful language regarding my own presence here and the part which I am taking but I can assure you that amid the various duties which are imposed upon me during this autumn tour there are few that I shall find more congenial, for the education of the Chiefs and Nobles of the Native States of India is a matter which has occupied the sympathetic attention of a long succession of Viceroys from Lord Mayo onwards and I should indeed be wanting in a proper sense of my responsibilities if I did not realise the special place filled by the Chiefs College in the general scheme of educational policy. I feel, it therefore, a privilege to be allowed to take my part in to day's proceedings and I regard them as the symbol of great progress accomplished in an important field of work. I cannot help thinking that this must be a proud day for Sir Hugh Daly whose face I am sorry so miss for it places as it were a crown upon the work to well begun by his father and it has doubtless been a labour of love to him and a task of filial piety to develop the Daly College to the highest possible standard. His enthusiasm was clearly infectious and I tender my congratulations both to the other Political Officers who have taken so keen an interest and to the Chiefs of Central India who have rendered this building possible not only by their moral support but also by their most generous contributions. There is no finality in this world and I feel confident that these benefactors of the College will continue their interest in its future and I hope that some of them may be moved by Mr. Hide's recital of the additional requirements already in sight.

I should like to take this opportunity of congratulating the Daly College staff and students alike upon the progress they have made and the successes they have won. I am told that there are no less than 70 boys here, a wonderful contrast to the total of five little boys of 1904 and I make no doubt that with improved buildings and other facilities the members will continue to grow without sacrifice of quality or efficiency; for in the past you had to put up with considerable difficulties, you have had plague in the city which delayed the

erection of your buildings, you have had insufficient and uncomfortable accommodation and long terms of residence and study without a break, but cheerful good temper and willing co-operation on the part of masters and boys alike have carried you through and here let me say how deeply I regret that to day's celebrations should be closed by a tinge of melancholy when we reflect upon the loss that the College has sustained in the sudden and lamented death of Mr. Nicholls who was so promising and capable a member the staff.

There is one way in which Chiefs can co-operate with the Principal and secure the fullest advantage of the money they have spent, the improtance of which has not perhaps been fully realised though in this respect matters are improving, and that is by sending boys from their States to the college when they are young and insisting on their regular attendance. In Europe boys are learning a second language and have made considerable advance in arithmetic at an age when Indian boys of noble birth have hardly begun to read or write their mother tongue and in Europe, regularity of attendance is insisted on by parents and until an improvement is shown in these two respects it is impossible to reap the full benefit of the instruction that is available. The remedy lies in Your Highnesses hands. There is just one other thing that I should like to say before I conclude. Except those who become Ruling Chiefs or the heads of families with estates to manage I am told that few of the old boys are to be found doing useful public work in the various States in later life and yet there is plenty of scope from them, for the great groups of Central India and Rajputana States needs practical administrators in every department of government and I cannot but think that among the young men of good birth and high charreter sent out into the world by these colleges there should be many with preeminent qualifications to do good service. I have heard some talk of a post diploma college and there may be the need in that idea of a scheme which would render such boys ever more fit for useful State employment. But whatever may come of it Ruling Chiefs would do well by their countries, do well by their nobles and do well by those colleges if they would steadily bear in mind that there is no better staff for responsible work than is to be found in the class of boys who pass through them, that it would be good policy to employ them when possible and to support any scheme that may be wisely devised to render them more fit for such employment. I note that it was Lord Dufferin who opened the first building of Daly College in 1885. He was my first master under whom I served more than 30 years and whose memory I hold in reverence and affection. It is a matter of personal satisfaction to me to follow in his footsteps and the buildings which it is now my great pleasure to declare open are worthy of the noble purpose for which they are intended. They have been designs by Sir Swinton Jacob, that unrivalled master of Indian architecture to whom so many parts of India are indebted for beautiful and practical edifices. It is my earnest wish that the members who are brought up among these architectural beauties may be influenced by them and learn from them and in them to live lives at once noble and practical.

Government College Ajmer

Out of the 50 lakhs of rupees granted on the occasion of his Majesty's Coronation Durbar held last year, rupees thirtytwothousand have bee allotted to the Government College Ajmer. The boon, unexpected as it is, will serve to avert the imminent and threatened danger of its disaffiliation from the Allahabad University.

THE HINDU UNIVERSITY

Committe's Reply to Government

The Maharaja of Durbhanga, President of the Hindu University Society, has replied to Sir Harcourt Butler's letters of the 9th August conveying the Secretary of State's decision regarding the University. The Hindu University Committee after considering the letters, authorized the President to give a reply in course of which the Committee first thanks the Government for accepting the proposal for the establishment of a University for the Hindu community at Benares On the question of the name, the reply says:—While the members of the Executive Committee fully recognises that a change of name will in no way involve my change in the essential features and scope of the proposed University at Benares, they cannot help feeling that the new name proposed for it will not appeal to the Hindu public at large throughout India to the same extent as one by which it has till now been proposed to be called. Located as it is at Benares, the sacred city of the Hindus, the association of the word Hindu with its name will not only satisfy a much cherished sentiment, but will also indicate and point out that it will be for the benefit of the entire Hindu Community of India that it looks for support and help. The Executive Committee has consulted donors and they find that the public opinion is very strongly in favour of retaining the name originally proposed. The Committee hopes that the Government will be pleased to allow them to do so. The reply further says: "The decision the University will have no power of affiliation outside the locality in which it is established has caused deep disappointment, and the Committee feels extreme reluctant. In soliciting the reconsideration of that point. the Committee points out that the first of the four practical objections to the grant of power of affiliation outside the locality is very much minnimised by the fact (a) affiliation to outside Colleges would only be granted under rules approved by tne Government to institutions as well equipped as one of the University Colleges in any branch of learning and Science; (b) that institutions applying for affiliation will be required to make religious instruction the integral part of their work; (c) that they will be Residenial Colleges fully equipped as much; (d) and lastly, that affiliation will depend after all on the final sanction of the Government. The number of institutions likely to fulfil all these conditions will, at any rate, for a long time be

inconsiderable. With proper safeguards there is little fear of conflict of territorial jurisdiction or of undesirable competition" With regard to the second objection that outside affiliation would keep down the standard and destroy the hope that Colleges would become genuine seats of learning the reply says:— "Such would not be the case. Great distances in India make it extremely difficult for students from every part of India to come over to Benares. It is only in case of higher studies that such concentration is most beneficial If post graduate studies were concentrated at Benares, while the study for degree were also permitted in well equipped Colleges much of the objection would be obviated. The Government will always have power to limit application at any point it likes but if no Colleges are affiliated outside Benares the cherished hope of the promoters to shape the curriculum which will conduce to the development of Hindus culture will be realisable in Benares alone. The Committee further points out that it would be absolutely necessary for the proposed University to hold Matriculation Examination at various centres in India, and it would also have power to recognise schools." In conclusion, the Committee feels disappointed that H. E. the Viceroy cannot be the Chancellor, and they hope that this point may be reconsidered, but in any event they would feel gratified if the University were permitted to place at its head as its protector the august name of King-Emperor, and they hope that the viceroy will become its first patron. As to other points the Committee submits their constitution in the form of a draft Bill and memorandum, with the suggestion that preliminary details can best be settled by conference and discussion between representatives of the Committee and the Government.

TECHNICAL EDUCATION

Cawnpore Agricultural College

At the diploma examination held in March 1912, at the United Provinces Agricultural College 26 out of the 30 students who appeared at the examination obtained a diploma of Licentiate of agriculture. These results were somewhat better than the previous year. Four distinctions were given one in Biology, two in Chemistry and one in Agriculture. The landing student was appointed to post of Naib Tahasildar.

EDUCATION ABROAD.

Prof. E. J. Rapson [Prof. of Sanskrit at Cambridge] writes to us:

A performance of Cakuntala at Cambridge.

In theory the Long Vacation at Cambridge extends from June 24th to October 1st; but this does not mean that the intellectual life of the place is suspended for so long a period. Not only do many honour students reside for about six weeks of this interval; but the vacation offers facilities for congresses and associations of various periods; and on this occasion the Summer Meeting or annual re-union of University Extension students, was held at Cambridge. It is usual to choose for the Summer Meeting which lasts altogether for about a month, some subject of wide-spread interest, around which all the different groups of lectures are arranged. The central topic chosen for the present year was 'the British Empire'; naturally a very large proportion of the lectures was devoted to India. What could be more fitting then, than that on such an occasion the most celebrated of Indian dramas, Kalidasa's 'Cakuntala' should be performed.

We all know that, according to the tradition Kalidasa was one of the 'nine gems' at the Court of Vikramaditya; but it is only within the last few years that scholars have come to a general agreement that this Vikramaditya is to be identified with the Emperor Chandra-Gupta II who reigned from about 401 to 415 A. D. and is well known to us from his inscriptions and coins. This view is supported also by other evidence; and it is altogether befitting that the date of Kalidasa should thus fall in the Gupta period, which was the golden age of classical Sanskrit Literature. The play Sakuntala gains in interest when we are enabled to realise the surroundings amidst which it was first produced at the royal court at Ujjain some fifteen hundred years ago.

The performance at Cambridge was undertaken by the Elizabethan Stage Society, under the direction of Mr. William Poel. No English company could have been more suitable, since there is a very striking similarity both in form and spirit between the English dramas of the Elizabethan period and the Classical Sanskrit drama of Kalidasa, who in fact has, not inaptly, been called 'the Shakespeare of India.

But it is after all no easy task to present a Sanskrit play in such a manner as to make it easily intelligible to an English audience. The difference between Indian sentiment and English sentiment, and between the fifth century and the twentieth century can only be bridged over by sympathy and intelligence, and it is because they possess these necessary qualities that the actresses and actors of the Elizabethan Stage Society was able to achieve a great artistic success when they played Cakuntala before numerous and appreciative audiences at Cambridge in the afternoon and evening of Thursday, August 1. The part of the heroine, with all the joys and sorrows, was played with much charm and feeling by Miss. Irene Clark; the Durty-

anta of Mr Clarence Derwent was full of strength and dignity, while the Vidushaka of Mr. Nigal Playfair equalled the original in combined self-importance and stupidity.

In the acting edition of the play the excellent verse translation by the late Mr. Harinath De, was used as far as possible; but this unfortunately only comprises the first two acts. For the remainder an English translation, with lyrics by Mr. J. W. Habbach, was specially made for the occasion from the French of Bergaigne.

Let us hope that on some future occasion we may have at Cambridge the pleasure of witnessing a performance of one of the other master pieces the classical Sanskrit Drama, as, for instance, the the Mricchakatika or the Ratnavali.

Foreign Students in America

Statistics compiled by the United States Bureau of Education show that there were 4,856 foreigners enrolled as regular Students in the universities and colleges of the United states during the school year 1911-12. Summer students brought the total up to 5, 227. These figures do not include the number of students in preparatory schools. Of this number 3,893 were undergraduates. 249 were graduates of American colleges engaged in graduate work here.

Canada leads in the number of students pursuing courses in the United States with 898, and the West Indies rank second with 698. China and Japan together send more students to the United States than the entire continent of Europe. China sending 549 and Japan 415, while 251 came from the United Kingdom, 143 from Germany, 120 from Russia and Finland, 96 from Turkey in Europe and 313 from the rest of Europe. India and Ceylon sent 148, Chosen (Korea) 21, Persia 17, the Philiphines 123, Turkey in Asia 73, other Asiatic countries 24, Hawaii 105, Australia 105 and New-Zealand 26. Brazil sent the largest number of students from South America, 61. Argentina sent 51, Peru 28, Colombia 28, Chili 19, and the other South American countries 72. Mexico follows Japan in the number of students sent with 294. All of Central America contributed 84 students to the total. Africa was represented by 26 from Egypt and 53 from South Africa.

Next to the courses in arts and sciences, which enlisted the attention of 1,371 students, medicine and its allied courses of dentistry, pharmacology and Veterinary medicine were the most popular. The courses closely allied to the commercial progress in the world drew as follows: Engineering, 693; Agriculture, 255, and Economics, 249. There were 512 foreign students of Theology and 121 of law.

Privately endowed Colleges and Universities, schools for professional education seem to be the most popular with the foreign students, the former class having 1,981 on their rolls and the latter 1,563. States Colleges and universities enrolled 692, Agricultural Colleges 255, Schools of technology, including department of universities and colleges and colleges of mechianes 242, colleges for women 123.

Mr. R. Tata's Gift to London University

A scheme has been arranged for the administration of Mr. Ratan Tata's gift of 21,400 a year for three years to London University to promote the study of methods for the prevention and relief of poverty. A bureau is to be formed for the the provision of information, and lectures are to be delivered and published on the subject. Mr. R. H. Tawney who has been connected with the workers of educational association, has been appointed direc tor,

Gifts to Glasgow and Aberdeen.

The late Mr. Robert Marshal of Glasgow, has bequeathed to the Glasgow University Court, by special deed of trust, the lands and state of Grangehill, Beith or the proceeds thereof when sold, for the purpose of endowing a Chair of Modern Languages in the University. The annual value of the state is between £600 and £800. There are, at present lectureships in the University in French, German, and Italian, and the Court is already in possession of certain funds which have been given towards the endowment of Chairs in French and German.

Aberdeen University Court has received intimation of a bequest by the late Mr. Alfred Gilchrist for the foundation of bursaries in the Faculties of Arts and Medicine, and of lectureship on the progress of medical science and the progress of educational science, the lectures to be delivered every five years by the Professor of Materia Medica and the Lecturer in Education.

Continuation Schools in Germany

In the district (*Bezirk*) of Kassel alone there are at present 62 industrial continuation schools, with 7,199 pupils, 393 of them unskilled workmen; to these must be added 11 commercial continuation schools with 1,254 men and 526 women pupils The most conspicuous development is of the country continuation schools (*landliche Fortbildung. sschulen*); of these Kassel has 454, containing 8,686 pupils. Special courses are being given in many parts of Germany to train teachers for country schools, and these courses are followed by the clergy, not so much engrossed by "religious difficulties" as to be indifferent to the children's needs. In the Niederbarnim Circle (*Kreis*), Brandenburg, there are now 14 industrial continuation schools, and nine places are enumerated as having recently established country continuation schools. Noteworthy here is it that the *Kreis* is making grants to enable forward pupils of the continuation school to attend

higher professional schools (*Fachschulen*). In fine it cannot be disputed that Germany is giving to the adolescent sedulous and ever-increasing care.

University of London Extension Lectures

The Registrar of the London University Extension Board has issued a programme of extension lectures arranged for this session (1912-13.) Most of the lectures have begun in the second week of October. Central courses will be delivered at South Kensington, in the city, in the Jerusalem Chamber of Westminister Abbey, and elsewhere; local courses in all parts of London and suburbs, extending as far south as Ashtead, Chislehurst, Croydon, and Weybridge and as far north as Harrow, Wandsworth, West Ham, Bermondsey, and Buckhurst Hill have not been omitted. Several interesting courses are held in the British Museum, the Victoria and Albert Museum, King's College, and University College; short courses are arranged in Bethnal Green, Whitechapel, Eltham, and Hampstead Garden Suburb; and tutorial classes under the joint committee for the promotion of the higher education of working people in the various districts of London where they are especially to be found. The special training course for lecturers will be held as before, under the guidance of Mr. H. H. Hulbert and Professor John Adams. A fourth diploma—on the History of Art—has been added to the three previously established in History, Literature, and Economics and Social Science.

Leeds Training College

The new Training College for teachers at Beckett's Park, Leeds is described by its Principal as the most complete educational institution of its type in Europe. The buildings have over eight acres of floor space, upon which will stand 1,000 separate rooms. The are a of ground enclosed is about ninety-seven acres. The principal structures are an imposing central block, looking over a fine sweep of lawn, and eight hostels, five accommodating 300 women students, and three 180 men. There is a tutorial staff of thirty and a domestic staff of sixty. The total number of students in residence is 450, or thirty below the maximum admissible. The College is the largest residential college in the country, and has the advantage of all the most modern equipment. The total cost of land and buildings is £242,000, contributed by the public purse, Imperial and local.

Educational Progress in Japan

The thirty-seventh annual report of the Minister of State for Education in Japan, which has just come to hand, is at once, in many respects an inspiration and an example to all who are engaged in educational work. Special means are taken for the nurture of efficient teachers, so that the teaching staff of every school should be made complete and perfect, while, on the other, honour and encouragement are given to all persons of merit who were connected with education. At the same time profound attention is paid to the moral education of pupils and students. Its special development, enhanced by both intellectual and physical education, is sought with assiduity. The text-books have been revised, and the most up-to-date methods introduced into the schools, of which there is a great variety, not only for elementary and secondary education, but also for specialised education in all its forms. While a good general education is given as a foundation, special attention is paid to every department of technical education. There are said to be 5,614 technical schools, but of these 5,192 are supplementary schools, in which the simplest application of the work of the elementary schools is given to industries of the district. Three are fourteen higher grade institutions under the direct control of the Department of Education, in which a very complete training is given in the subjects required in commerce, industry and agriculture. At the head of the educational system are the Imperial Universities of Tokyo and Kyoto, which are now very completely organised and equipped.

WHAT OUR STUDENTS ARE DOING ABROAD

Madras Student

The approximate number of those who have gone to Europe during the year is not less than 37 excluding 2 who have gone to America, 28 of this number, it is said, are Hindus, 1, a Mahommedan, 3 of the Domiciled community and 5 Indian Christians, the number including three ladies. Of those who have gone, we understand that 24 have formally or informally consulted the Advising Committee and nine have expressed their willingness to be under the guardianship of the adviser. Two of the number are Government Scholars and one is scholar sent by the Vysia Community. 11 intend to take University degrees in Arts or Science, 7 go in for Engineering, 6 for the Bar, 11 for Medicine, 4 for I.C.S. and other services, 2 for Forestry and one for Accountancy, With regard to their educational qualifications, we are told 1 is an M.A, 11 are Graduates, 3 have passed in two branches of the B.A,, 11 are F. As., 4 are Matriculates, 4 hold school leaving certificates and 1 has passed the Cambridge local, while the qualifications of 2 are unknown,

The Measurement of Educational Products.

BY EDWARD L. THORNDIKE
Teachers College, Columbia University.

The business of man, I suppose, is to change the world for the better. Things and men have to be reformed so that they will satisfy better those wants which reason finds worthy. And man's wants also must be changed. The guide of reason in changing things to fit human wants, and in changing men themselves to fit their nobler possibilities and the common good, is science—matter-of-fact, verifiable knowledge of the nature and causes of changes in things and men.

Education, like history, economics, sociology, and the other sciences of man, is just beginning to give promise of quantitative knowledge, of descriptions of facts as numerically defined amounts, and of relations or laws in terms of rigid, unambiguous equations. The changes that take place in intellect and character are coming to be measured with the same general technique, and we may hope, with the same passion for clearness and precision, which had served the physical sciences for the last two hundred years.

I shall try today to describe one feature of this quantitative work in the science of education—perhaps I should say, this quantitative work toward a science of education. I wish that my description might be adequate, so that those of you who esteem the definiteness and rigor of the physical sciences would be led to agree with me that a science of the changes produced in man by education may be made just as definite and exact—and so that those of you who esteem the significant and universal application of the humanities would admit that the life of man gains a new dignity when the insights of the dramatist, sage, or statesman are reinforced by measuring-rods and scales for weighing and accounting for human nature and behaviour.

The need for measurement of the differences made by education—of educational products—is equally demonstrable whether our concern is with education as a science or education as a business. However it is defined, education concerns the production and prevention of changes in human beings; and a science of education must identify these changes, compare them, and relate them to their causes. To do this it must measure them. The balance-sheet of education as a business has as its credit side certain educational products—knowledge of such and such school subjects, habits of courage or persistence, and the like, skill in this or that trade or profession, added interests, refinements of taste, ideals of honor, service, and truth. It is fruitless to keep only the debit account—of time and money expended, of teachers, books, supplies, buildings, courses of study, and methods of teaching and the like, leaving the credit account—the results achieved, the products of education—vague and insecure.

There are peculiar difficulties in keeping an accurate account—in measuring the changes which are the data for the science of education. The facts are extraordinarily complex, very widely variable, and do not at all readily suggest units, scales, or graded standards by means of which they may be identified, compared, and related.

So apparently simple an ability as ordinary addition of integers can be shown to require analysis into at least nine separate abilities, each of which probably requires further analysis, in one case, into perhaps ninety component ability-atoms. The achievement of any pupil in any matter of intellect, character, or skill usually varies widely, so that many measurements of ostensibly the same fact have to be made to relieve it from its chance or accidental error. Scales, graded standards, by which to report knowledge of German, ability to spell, skill in cooking, original power in mathematics, appreciation of music, or any educational fact you may think of, are now where the thermometer, spectroscope, and galvanometer were three hundred years ago—they do not exist.

The beginnings that are being made towards overcoming this third difficulty are my special topic today. I ask you to consider the requirements of

a valid scale of measurement in general, and to consider whether we can meet them in measuring educational products.

The ordinary scale for weight, zero, one gram, two grams, three grams, and so on, exemplifies an ideal scale in four respects: First, it is a series of perfectly definable facts. All men over all the world may know exactly what is meant by two grams or four grams. In the second place, each amount is a different amount of the same kind of thing. "Four grams" is so much of the same kind of thing of which "two grams" is "two grams." In the third place, the differences between any two of the amounts are perfectly defined in terms of some unit of difference. The step from four to five grams is the same as the step from forty-seven to forty-eight grams, and so on. Lastly, the zero point of the scale is absolute; that is, it means just barely not any of the thing in question. I shall take these points in order.

Can we, then, in a science of education, get a series of perfectly defined points of the amount of some thing, so that all men may know what each man means by the statement he makes, as all know it in the case of "one gram" or "two grams"? At the present time we have certain descriptions or identifications of these points on the scale, or amounts of the thing. We say, in the case of handwriting, "a good plain hand," which is about as useful a statement—of about the same character—as if, in describing the weight of a body, we should say, "as heavy as a baby." In describing the ability of a pupil in German, we say "His knowledge is about equivalent to that required for passing intermediate German." That is about as if, in describing the length of an object, we should say, "It is about as long as a man can jump." In measuring a Freshman's composition in English in Harvard College, we say it is of "C" grade. That is about on a level with the statement that a glass of water is "tepid"; and although there may be a certain emotional appropriateness in the use of the word "tepid" to describe the Freshman's composition, as a scientific measure it is hardly adequate.

Now it is an easy task, theoretically, for educational science to take these vague, ambiguous statements of common-sense and refine them as physical science has in the past refined similar measures in the case of physical facts. We can, for example, define a good plain hand by printing a sample of it. If I should write on the blackboard with a certain degree of legibility and beauty, and if this association were to say, "That is what we call a a good plain hand"; and if we were to have copies made of it, so that people could see it; and if we should get the people of the United States and of other countries to agree that "a good plain hand" meant a hand as good as, and no better than, the printed sample in question—then we would have one point on the scale thereby defined.

In the case of spelling, we can define a point on the scale as the ability to spell words as hard as, but no harder than, "at" and "go," or "wish" and "touch," and so on to "millinery," "development," or words of any difficulty we choose. We could, in the case of German, agree upon a series of passages, graded in difficulty of translation, and say, "What we mean by ability 'four' is the ability to translate this passage with a certain degree of precision, but not to translate the next more difficult passage," and so on. Such a series of passages would be easy enough to get, and would define for us points in this particular scale. Similarly we could get a series of originals in mathematics, graded in difficulty, which would define a series of points on the scale of mathematical ability. We could in the same way define the amount of merit in an English composition by an actual sample. Lately my friend Mr. Hillegas has been engaged in doing that in the case of English writing by young people in their teens.

The second requirement of the ideal scale, you will remember, was that the different amounts should be amounts of the same thing. Here again the present practice is far from as advanced as we would wish. Take the case of ability in arithmetic, in grammar-school pupils, for example. As you well know, our measurement of ability in

arithmetic actually is a measurement of two different things : sheer mathematical insight and knowledge, on the one hand ; and acquaintance with language, on the other. For example : suppose I give this problem to pupils in the second grade at school, "If you already had two cents, and someone gave you three cents too what sum would you then have in all?" Suppose that a day later, I give the problem, "How many are three and two?" As you all know, the percentage of children getting the second example correct would be far higher than in the case of the first example. The first test is not so much in arithmetic as in language ; the difficulty is in the words "already," "too," "someone," "would," "in all."

In the case of spelling, ordinary measurements of achievement mix up knowledge of spelling proper with an acquaintance with words and meanings. For example, to be able to spell the words "too" and "there" requires mainly ability in spelling ; but the ability to spell correctly the words "Popocatapetl," "Abracadabra," would require to some slight degree a knowledge of spelling, but largely a wide knowledge of the language.

Those of you who teach languages in secondary schools are well aware that the ordinary college-entrance examination and also your own tests of achievement in a language are scales which measure two things. Part of the difficulties which pertain to translating a passage in a foreign language arise from the difficulty of understanding the general thought of the passage. We have all, I fear, given our pupils passages which, so to speak, they could not translate even if they were given in English! They would not know what they meant, if they were given in English. The difficulty would be that they did not have the general knowledge of affairs and things to understand the meaning of the passage in any tongue. Here again there is nothing impossible in the task. We can separate out, by skilful experiments, achievement in mastering spelling difficulties proper, apart from the difficulties of mastering a general acquaintance with English words. We can devise passages such that the facts and relations are simple, but the German, the French, or the Latin, is difficult ; and other passages where the French or German or Latin is easy, but the meaning is difficult. We can separate into two scales these two sets of facts measured.

For the purpose of what I have to say, let us assume, then, that we are measuring the same sort of thing, and that we have reached a point where we have, as our identified quantities, or amounts, or "scale-points," things which are in a linear series, and which differ ***in amount only***, being of the same quality or thing or product.

The third requirement of the ideal scale was that the differences between any two scale-points or values should be rigorously and perfectly defined in terms of some unit of difference. Now we come to a point where very little has been done by our educational practice. Most of the quantities that we assign in education signify only relative positions really. We perhaps make a pretense at their being differences in amount. When we say that one pupil is "75" and another is "80," a third is "85," another is "90," and another "95," if there is one thing we do know, it is that the step from 98 to 99 is, as a matter of fact, almost never equal to the step from 59 to 60; or 49 to 50. We do not know what their proper ratios are, however. Nobody here could tell from any given set of grades or averages of grades what the exact relation of the difference between 65 and 70 was to the difference between 85 and 90. We do not know, with respect to general educational products, whether the step from grammar-school to high-school graduation is equal to, less than, or greater than, the step from high-school graduation to college graduation ; much less can we put the two steps into an exact ratio. We do not know whether the step from a barely legible handwriting up to a good plain hand is equal to, less than, or greater than, the step from a good plain hand to a perfect, copperplate writing ; much less could we put the differences in terms of an exact ratio.

The problem, then, is to take the differences in

relative merit that we all observe in school products and turn these into precise differences of amount. This can be done. Here, I shall have to take you into a somewhat technical discussion for a few moments. In fact to deal with the subject properly I should have to go through a rather laborious discussion of the logic of quantity generally. I take equality of steps of difference, which is the simplest caserhetorically, though all I say applies to getting any ratios between differences defined. When a difference is not always noted by competent judges. we may say that two differences are equal which are equally often noted. If, for example, we had four samples, 1, 2, 3, and 4, of English writing, such that 50 per cent of an expert group said that 1 was better than 2, whereas 20 per cent said that 2 was better than 1, and 80 per cent said that 3 was better than 2, and 20 per cent that 4 was better than 3; then in a very important, and, with certain limitations, true sense, we can say that the difference between 1 and 2 is equal to the difference between 3 and 4, because it is equally often noticed by equally competent judges. This method of turning measurements by relative positions into measurements in terms of units of amount was first used, very roughly, by the late Mr. Francis Galton, an eminent English man of science. It has been used by Professor Cattell and and others at Columbia university; and it is used in many fields of human life, apart from education. It is the most convenient tool whereby to express the steps of difference, and define the distances of one point from another, of all the educational scales that we have. I shall illustrate this by reading six compositions by pupils of high-school age, which by such use of the opinion of two hundred experts—common-sense people, experts in education, teachers, literary men, editors, and the like—are found to differ by approximately equal steps. These steps are not absolutely equal, being in fact 11, 10, 11, 9, and 10. I will read the compositions, in their order, from the lowest up.

26. "Advantage evils are things of tyranny and there are many advantage evils. One thing is that when they oppress the people they suffer awful I think it is a terrible thing when they say that you can be hanged down or trodden without mercy and the tyranny does what they want there was tyrans in the revolutionary war and so they throwed off the yok."

37. "When Sulla came back from his conquest Marius had put himself consul so sulla with the army he had with him in his conquest siezed the government from Marius and put himself in consul and had a list of his enemys printy and the men whoes names were on this list we beheaded."

47. "First. De Quincys mother was a beautiful women and through her De Quincy in hereted much of his genius.

"His running away from school enfluenced him much as he roamed through the woods, valleys and his mind became very meditative.

"The greatest enfluence of De Quincy's life was the opium habit. If it was not for this habit it is doubtful whether we would now be reading his writings.

"His companions during his college course and even before that time were great enfluences. The surroundings of De Quincy were influences. Not only De Quincy's habit of opium but other habits which were peculiar to his life.

"His marriage to the woman which he did not especially care for.

"The many well educated and noteworthy friends of De Quincy."

58. "The passages given show the following cha racteristic of Fluellen: his inclination to brag, his professed knowledge of History, his complaining character, his great patriotism, pride of his leader, admired honesty, revengeful, love of fun and punishment of those who deserve it."

67. "Ichabod crane was a schoolmaster in a place called Sleepy Hollow. He was tall and slim with broad shoulders, long arms that dangled far below his coat sleeves. His feet looked as if they might easily have been used for shovels. His nose was long and his entire frame was most loosely hung together."

77. "When at last it did arrive the postmaster began to quickly sort the bundles, we waited

anxiously. Immediately upon receiving our bundles, I lashed the horses and they responded with a jump. Out into the country we drove at reckless speed—everywhere spreading like wildfire the news, 'Victory.' The exileration that we all felt was shared by the horses. Up and down grade and over bridges, we drove at breakneck speed and spreading the news at every hamlet with that one cry 'Victory.' When at last we were back home again, it was with the hope that we should have another ride some day with 'Victory'."

The second sort of argument is somewhat more intricate. Suppose that we have a scale running from a low to a high degree of achievement, say, in solving geometrical problems. And suppose that we know the geometrical, a half circle on the linear scale as base, the normal probability-surface or any other. Then, from the percentages of such pupils solving problems A, B, C, D, etc., we can determine the ratios $\frac{A-B}{B-C}$ $\frac{B-C}{C-D}$ $\frac{C-D}{D-E}$, etc.

Thus suppose the form of the distribution of ability to be that defined by the scale line as a base and the line $Y = Pe^{\frac{-x^2}{2npq}}$, and call L the achievement of solving a problem which 9,987 out of 10,000 such pupils can solve. Call H the achievement of solving a problem such as only 13 out of 10,000 such pupils can solve.

To get a series of, say, 13 achievements varying from H to L by 12 equal steps we shall have to find problems which can be solved by 13, 62, 227, 668, 1,586, 3,085, 5,000, 6,915, 8,414, 9,332, 9,773, 9,938, and 9,987 out of 10,000 of the group respectively.

This method has so far been used only once or twice, but is likely to become of great importance in the case of certain educational products.

Neither of these methods of defining the difference between facts is that commonly used in the physical sciences. To the physicist, those differences are equal which are products of the same cause in the same circumstances or which, under the same conditions, produce the same effect. The difference between nine inches and ten inches is equal to the difference between six inches and seven inches because one standard length produces either difference. One degree of temperature, is equal to any other degree in temperature in the sense that it will raise the mercury the same distance. We can do something like this in education, though it becomes rather difficult, and careful logic is undoubtedly required.

The last element of a valid scale was that it should be referable to a zero which meant just barely not any of the thing in question—that is, an absolute zero. The importance of this may not appeal to many of you; it does not appeal to people generally. What an absolute zero does is to permit us to use the "times" judgment—to say that this educational achievement is twice or one-half or three-fourths times that; speaking algebraically, it enables us to use equations with two instead of four unknown quantities, because the zero points are true zero points.

If you ask anyone to tell you what he means, or show you what he means, by "just barely not any originality in mathematics," or "just not any merit in handwriting," he is likely to be amused, and say that he never thought of it, and does not intend to! But I must confess that to me it appears that such a person has not clearly defined his ideas. A person cannot think accurately or wisely about any quantity until he has referred it to an absolute zero on some scale, Now the fact that zero points do not stare us in the face in the case of mathematical originality or knowledge of German, or ability in writing, as they do in the case of measures of length, weight, and time, is no excuse for not trying to get them. They can be got, at least approximately. For example, if we define the zero of ability in spelling as the ability to spell a word like "go" or "so," we shall not be far astray for if a child has reached a point where he can be measured at all in respect to spelling and is not able to spell these words, he is approximately at just not any ability at all in spelling. I think if we should agree that for a pupil just not to know the meaning of "ja" and "nein" under ordinary conditions of

life in New England today would indicate that he was approximately at the zero point in knowledge of German, we should not be far astray. If he knew that "ja" meant "yes" but did not know that "nein" meant "no," he would be so close to the zero point that our error would be slight.

In handwriting, a handwriting which is recognizable *as* handwriting, but is of just not any beauty or legibility, is not hard to define. Fig. 1 may serve roughly. We should say that this was handwriting; it is not a house, nor a mere test of motor skill; it is, in a sense, handwriting; but it has no legibility or beauty. The zero point in the case of composition was determined by the judgment of forty experts, divided about equally between men of



Fig 1.

affairs, expert psychologists, experts in education, practical schoolmen, and literary men themselves. The sample taken as zero of merit for writing by young people in their teens was;

Dear Sir: I write to say that it aint a square deal Schools is I say they is I went to a school. red and gree green and brown aint it hito bit I say he don't know his business not today nor yesterday and you know it and I want Jennie to get me out.

If we get scale points defined, and their distances defined, and establish an absolute zero, there is no further difficulty in constructing a scale for achievements of human nature. Such scales have every logical qualification that any of the scales for physical measurement have.

There is no limit, theoretically, to the kind of things for which scales are practicable. I have chosen for convenience the simpler and easier cases. But the arguments apply equally to the sense of evidence in history, excellence of judgment in affair, devotion to the common good, or any quality, no matter how complex, that one may take.

It may save the time of all of us if I say just a word or two about two or three objections.

It may be said, "All this is unnecessary; the good old adjectives are enough for educational work". All that I have to retort is that for the kind of educational work that the person who makes this objection usually wishes to do, probably the old adjectives *are* all that is necessary.

A stronger objection would be that the common-sense judgment of a first-rate man without these units and scales is better than the action of the stupid man or incompetent man, with them. That is, of course, true—that a good man can do better work without them than a stupid man with them. It is precisely the work of science to get good work done by those of us who are rather mediocre. Thanks to the progress of science, we can now solve problems that Aristotle could not solve. We should all prefer to have for our children a stupid doctor of today, who nevertheless understood the use of antiseptics and antitoxins, than Galen or Hippocrates, though in respect to common-sense there would be no choice.

The third objection is one that a certain type of person feels very keenly, namely, that the personal, spiritual work of education—the direct human influence that the pupil may get—is not in the domain of exact science. But that is not a valid objection. Mothers do not love their babies less who weigh them. We do not serve our country less faithfully because we take its census, survey its coastline, or compute its resources. Education will of course always need its poets, its artists, its craftsmen, as well as its managers and men of science, but it needs these also. There is no reason why the artistic life should be impeded by the life of measurement. There is no reason why sculptors should sulk because surveyors prosper; or why a poet should feel badly because his odes are printed on paper whose length and breadth are known, and which is sold for a money price.

[This paper was read at the meeting of the Harvard Teachers' Association, Cambridge, Massachusetts U. S. A, March 9, 1912]

The Pedagogy of the Hindus—III.

BY PROF. B. K. SARKAR, CALCUTTA.

(*Continued from page 68*)

The Philosophy of Life—False and True.

The western view of Man is very narrow and limited. Man is looked upon as a pigmy being working in a circumscribed field. There is no attempt at considering him from the stand-point of his greatness and immensity. This world is the whole range of human activity, this birth is the sole opportunity for the display of his powers. He has to think and act on this little stage we call earth. There is no other world transcending the limitations of time and space, beyond this positive world, outside the boundaries of the physical and mental regions. The soul or spirit is an idle product of the brain, an illusion, at best an abstract conception, and such things as the perception of the Infinite, highest self-realisation, spiritual culture &c. have no existence in reality, they are mere metaphors of a figurative language. The sole reality, is the existing conditions of life—man must act his little part under the circumstances of this world and must have his highest self-realisation in the life that he lives now.

Man thus considered is necessarily a miserable creature full of littlenesses and pettinesses. And littleness is the root of all strifes and discords. Human life then becomes a theatre of petty jealousies, the battleground of selfish impulses and the scene of daily disunions and rivalries; inconsistency, disorderliness want of harmony and rhythm must characterise the activities of man. Unless one can remove these evils daily life would be intensely painful and intolerable, society would degenerate into the barbarous condition of the 'state of nature.' The greatest problem of the west, therfore, has been the removal of the disunions of social and political life, the mitigation of the evils of diversity, discord and inequality. This attempt at bringing about some amount of harmony and unity is perceptible in the western regulations regarding the dialects and centralisation of manners and etiquette, in their ideals about the unity of language, dress and customs,and the division of the people into clubs, corporations, partnerships, associations and denominations on the principle of contracts and agreements that rigidly define the articles and privileges to be respected between member and member, party and party, section and section. The destruction of diergences and varieties and the achievement and furtherance of "working" unities and compromises are at the root of all socio-economic, economico-political, socio religious, and socio-political movements that make up the complex drama of actual life in Europe and America. The people in those countries are ever on the look out for the principles of association, the common grounds on which they can build their scheme of life and are constantly watching the movements that may possibly militate against their efforts at uniformity. The institutions as well as demonstrations of western life,—all point to this attitude of rounding off the angularities, clipping the wings, paring off the edges with scissors and 'striking the mean' or the average in the interest of unity, uniformity and harmony. The Parliament and the school room, the restaurant as well as the church bear ample testimony to the influence of compromises, agreements, contracts and conventions.

This philosophy of human and social life is the basic foundation of the educational systems of the west, and explains the fear of disunion and sectarian animosities that leaves its stamp on the activities of the educators. But this is not the sole view of life. Man is not merely the little being that he is characterised to be. Man is not mere flesh, nor does he live by bread alone. He is surrounded by the Infinite, is situated between two boundless regions, a bridge between two infinities and it is himself, in fact, a participant in the great unknown, the transcendental reality. There is in him the soul that makes him a kith and kin of intangible, invisible and eternal verities of the universe. He is thus in a real sense something

above 'World, Life, Time, Death'. This round earth, 'this orb of green' cannot circumscribe him, the world of senses is not the sole theatre of his movements. That certainly is a very poor and inadequate philosophy of human life that counts only the limitations, the finite world, the senses, matter and enjoyment. To know man fully and well one must know more than his attachments and worldly affairs and must remember his God-ward impulses, heaven-ward thoughts and activites, his 'obstinate questionings of sense and outward things'. The transcendental, the immortal, the super-sensual and supermaterial constitute the greater portion of human life.

Thus considered, man has infinite possibilities, immense opportunities, incalculable resources for self-realisation. A single life is but a drop in the ocean of eternity through which the soul has to run its career, and for the highest achievements man can afford to wait instead of crowding together all his efforts and ambitions into the span of three score years and ten. The history of human soul is the real biography of man, the transcendental is the only reality. And so who can take note of the count less comings and passings of the spirit in embodied forms through æons before the highest perfection is achieved, before the divinity is realised? Man need not therefore trouble himself much about the inequalities and unevenesses of this world, the pettinesses and jealousies of this life, disunions and varieties of society. The trivialities and divergences of the actual positive world cannot make man really petty, trivial, inconsistent, and ugly, cannot introduce discord, dissensions, narrowness and inequality into his daily avocations, and cannot reduce him to the brute in the state of nature. For the higher synthesis of life, the greater wholeness, and the larger and wider harmony of human relation that is brought about by the perpetual perception of the Infinite and the constant subjection to the eternal and permanent truths of the universe can swallow up these occasional dissensions and uglinesses, the ephemeral pettinesses and diversities. The thousand and one littlenesses and disproportions of the actual world find their proper place in the transcendental beauty and symmetry of the universe. Beauty and harmony and equality are not necessarily lost in the daily inconsistencies and incompletenesses of human life.

It is the spiritual sense that can conceive the greater entity, the higher synthesis of human life. It is the spiritual sense that can appreciate the highest self-realisation of man and discover the ways and means for the furtherance of the best interests of soul. And with this end in view the spiritual sense of man, call it Religion if you will, introduces into the daily incidents and thoughts of life and the narrow range of temporary interests and temporal activities the idea of the Infinite, the unseen, the eternal and the super-mundane. The perception of this transcendental wholeness and entirety removes all disorders and strifes and brings in harmony and concord in human relations. And all departments of life, all thoughts and activities of the society, all the institutions of material enjoyment become hallowed and sanctified by the touch of super sensual and super wordly life. It is thus through the spiritual sense that man can realise the Infinite in the finite, appreciate the ideals of sacrifice and renunciation in the institutions of attachment and enjoyment and perceive the eternal verity in the incidents of life and death.

It is the spiritual sense that is the great harmoniser. It is the spirit of yearning after the Infinite, the thirst for the eternal, the transcendental that creates real symmetry and beauty in the world. And so the uncouthnesses, disproportions imperfections of the positive world, the weaknesses of sense-enjoyments, the inequalities and roughnesses of social existence, the angularities and idiosyncrasies of life, the material forms of thought and existence are not prejudicial to the transcendental order and concord, the spiritual unity and harmony that are perceived by the religious sense. The spiritual sense can tolerate the existence of disunions and unevennesses, material enjoyments and mechanical rites and ceremonies, the thousand and one customs and usages, for it can impart to

each an element of immortality, eternity and permanence. It, therefore, does not neglect as too material or lifeless anything that man does or believes. No part of human life, no thought or institution of man is therefore too low, too sensual, too mechanical for the spiritual sense.

In fact there is nothing in the human world that cannot be made religious, there is nothing done or thought by man that cannot be spiritualised. Religion *can be* where man *is*, spirituality and humanity can go hand in hand. All thoughts and passions of man can be controlled by the spiritual sense, his whole life can be the field for the play of the spiritual forces. Whatever man does with the help of his physique, whatever he does through the mental frame-work can all be elevated into religious and spiritual activities. The result of the physical and mental activities is the formation of the state, society, church, school, industry, literature, art, &c. So the social and economic life, literary and educational life can all be manifestations of the religious or spiritual life. The study of religious books, attendance at sermons, worship of deities, &c. are not the sole aspects of spirituality. Marriage ceremonies and charities,offerings to the manes of ancestors, travels, studies, physical exercise, rites and customs, as well as prayers and adorations are so many forms through which the spiritual existence can make itself felt.

The antagonism between faith and culture, religion and learning, therefore, does not in reality exist ; it is in fact the product of a philosophy of life that makes man a miserable, petty being always busy finding out 'means,' averages, compromises, and common grounds. It is to be replaced by the truth that there can be no rivalry or oppsition between the various manifestations of human life of all of which are controlled by the spiritual senses or Religion. So that the fear of conflict between religion and science is a myth.

Thus the really religious man would make all his thoughts and activities, however humble and material they may be, noble, grand and immortal by his transcendental, super-human and super-natural sense. He can perceive the eternal truths in his natural littlenesses, the splendid freedom of the soul in the physical limitations, and the infinite realities in the material institutions and the performances of the senses. The man who is perpetually guided by the spiritual sense, and controlled by the spirit that connects him with the Infinite does not taboo enjoyments and attachment but subdues and moderates them by the attitude of renunciation, self-denial and *vairagya*. He does not kill his aptitudes and inclinations, but restrains and harmonises them by the spirit of sacrifice. Exoteric rites and ceremonies are not contemptible to him. Forms and images are no hindrances to his perception of the Infinite. He can look through these natural imperfections of life to the eternal spirit that is unbodied and that knows no bounds. It is in this way that all the activities of his life are tinged by the idea of immortality, and pervaded by the sense of the Infinite and the stages of his life the harmony between worldliness and other-worldliness, attachment and renunciation realises itself. All his thoughts and activities tend to remove the idea that the body is the real life ; and the sole mission of his life in all its stages is to cultivate self-control and obey the rules of self-sacrifice.

Hence the religious man can never think of a situation in which he is opposed by Reason, Learning and Knowledge. For be it the study of *Ayurveda*, or the advocacy of Atheism, be it the pharmaceutical investigations or chemical operations, be it philosophical dissertations or mythological researches, be it the organisation of societies and the foundation of institutes or the establishment of Pragmatism or the Atomic theory,—all activities of the spiritually minded man must be heaven-ward, infinite-ward, god-ward, *i. e.*, controlled by the sense that the flesh is not the sole reality, and governed by the spirit of renunciation and craving for immortality and salvation. Consequently religion can never stand in the way of any activity, can never militate against any branch of learning, can never be rival to any science.

To be continued

The Wisconsin University Exposition.

Mr. Karl Beck, a graduate student of the University of Wisconsin, conceived the idea that a systematic study of the University would bring about a better interrelation among its various departments and thereby make the whole institution a more efficient servant of the people. The first step he took to attain this end was to arrange a University Exposition—a "Miniature world's fair of learning" by which every department should reveal to every other department the scope and efficiency of its work.

The Exposition was held, and met with a grand success. In only 15,000 feet of floor space its managers crowded 55 booths. Thousands of people paid 25 cents for admission to have a peep into the things exhibited, explained and demonstated by the undergraduates.

In the booth of hydrantic Engineering, for example, a miniature pump took water from a reservoir and forced it through pipes, meters, and mill-wheels. The Structural Engineering department exhibited blue prints and tracings of all types of bridges besides various beautifully constructed models of arches, dams and walls. The Mechanical Engineering department exhibited besides various other things a model of the battle-ship "Main", illustrating the method by which it was raised. This department also exhibited a complete model several feet square of a Steam Laboratory with all its engines and machinery. In the Civil Engineering department all the materials that are used in roads and pavements were on display, having been collected by students on inspection trips. At the Electrical Engineering Exhibit a complete wireless station sent messages for the crowd.

Powerful microscopes revealed the unseen workings of plant and animal cells, and various models in wax showed the marvellous arrangements of the human nervous system, the eye and the ear. In the Bacteriological Exhibit lukes of leprosy were displayed, and plates containing the bacteria which cause tuberculosis, lock-jaw, diphtheria, typhoid, cholera etc. were shown and explainep to the visitors. Another booth showed the work done in zoology.

The studies in Journalism, Hebrew and Hellenistic greek, the Classics, and German were appropriately represented by books, charts, and manuscripts. India was represented by some of her precious ancient Sanskrit books as well as some works in Bengali, Marhatti, Parsi, Urdu and Hindi. Placards were written by the students of different nations to represent the different types of characters used now and in olden times. Of the types of letters Bengali excelled in beauty according to the views of most of the visitors.

In the department of Mathematics the portraits of all the noted Mathematicians with short lives below, beginning from as far back as can be traced, were hanged on the wall. The names of our great Indian Mathematicians, Bhaskaracharyya and Aryyabhatta were of course not excepted.

The Agricultural Exhibits attracted the visitors most. They included many growing things. Plots of grains explained the actual process employed in producing the pedigree types, the value of seed corn testing and rotation.

Live pegeons and mice illustrated the principles and laws of Heredity. The Economic Entomology booth contained specimens of insects both injurious and beneficial to man and illustrated the methods employed in exterminating the destructive kinds.

Just near the exit door attracting great crowds was a model farm-house and orchard composed of geraniums. The house was made complete by the girls in the department of Domestic Science. Soils and fertilizer tests were also exhibited.

The utility of such an Exposition can not be overestimated. The Wisconsin University exposition should serve as an object lesson to other institutions which want to create public sympathy and interest.

Hemendra Kishore Raksiit,
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SCIENCE DIVISION

Chemistry in every day life.

BY J. N. RAKSHIT.

The march of science whilst it has revolutionised our thought has also profoundly influenced our practices in every day life, and made it very different from what it used to be a hundred years ago, and the change has been for the better too in a vast number of cases. But the influence has not been uniformly exercised. Europe and America have indeed lent themselves unreservedly to its sway and moulded their usages and customs accordingly. India with her chronic conservatism has thrown endless difficulties in its way. The conservatives in India besides cherishing a wholesome hatred for all that is outlandish take their stand upon the argument that if learn they must they may as well learn from their indigenous sages—some at least of whose works compare so advantageously with the achievements of modern science in the same direction and whose superstition itself is daily unveiling to the wandering eyes of science meaning undreamt of and unlooked for. But they have their counter part in the other class well versed in the art of imitation who hail everything that comes from the west as their salvation and feel a particular delight in dealing everything east as foolish. The former are a people who never care to question whether such indiscriminate following of foreign methods will really do them any good, they scarcely have a judgment of their own. For them it is sufficient that a thing comes from the West and they know how to give it a bone before the grandeur of the material success achieved by the West and conclude 'all wisdom must be there'. They forget that success in one direction does not necessarily mean success in another. Sometimes indeed they attempt at a rational defence of their position: but logic failing scoffing remains and carries everything before it. Suppose you find one of them practising the art of standing with legs apart. You ask him the reason. Perhaps the only answer you elicit from the smiling, possibly pitying if not disdainful look of the gymnast, is that the mode has found favour in England. If you happen to be a dauntless fellow and have the courage to put him a second question: why this unnatural strain to maintain the equilibrium of the body on *terra firma*? You are received with a terrific grin which sucks up all courage within you and you are sent away to prate among babies.

Again there are others very enlightened people who are possessed with an abnormal amount of hatred for all that is Hindu. If they are sure of anything it is this that they are not Hindus. They feel themselves glorified by departing from everything held sacred by the Hindus having no positive business of their own. Such men will bathe in every river, except the Ganges simply because the Hindus regard the Ganges as holy and although he may not ignore, in discussion, the hygienic value of a river bath. They are a lot with whom duty ceases to be a duty if impressed with a holy stamp by the Hindus, and the negative also is true to a certain extent.

However inspite of all worthies—whether worshippers of Europe or haters of India, it has been found that many of our immemorial customs and habits do find a valuable support from modern science. Many of them, however, are connected with astronomy and such are beyond the scope of my subject. In a series of articles of which the present is the first instalment I propose to place before the public the exact chemical aspect of our common domestic, religious, and bygienic duties and this if successful should also contribute an undeniable testimony to the scientific knowledge of the ancient Hindus. Cocoanut milk within a bellmetal vessel;—a substitute for wine*.

* Fuller scientific details of the subject will be forwarded for publication in the Journal of the Society of Cemical Industry of London.

There is an established belief among the Hindu people of this country that cocoanut milk is not to be taken from a bellmetal vessel, and it is considered that the milk in such a vessel is equivalent to wine. In certain Hindu *puzas* wine is offered and sometimes this is readily substituted by cocoanut milk in bellmetal vessels.

In 1909 it occurred to me that there may be some scientific explanation for the above. Consequently I tried to discover any chemical compound that is present in the milk or any such compound is formed by its interaction with the bellmetal which having an intoxicating power serves as a substitute for wine. Several months' attempt proving unsuccessful for the isolation of any such compound it was concluded that this may not be the method of procedure for searching out explanation. The investigation was chiefly directed for the detection and isolation of alkaloids, glucosides or resins. Next directing the attention towards the chemical constituent of the substance it has been found that it contains considerable quantity of fermentable sugar. * This sugar is naturally expected to be transformed into alcohol and carbon dioxide.

$$C_6 H_{12} O_6 = 2 C_2 H_6 O + 2 CO_2$$

Grape sugar alcohol carbon dioxihe

Cocoaunt milk was kept on glass and in bellmetal vessels simultaneously under similar conditions for a few hours and subsequently distilled at the same time. Both the distillates gave all the reactions of ethyl alcohol. Now thus far it is proved that wine can be substituted by cocoanut milk after keeping for some time. But this however, does not explain why bellmetal vessel is specially chosen. Next it was thought that the alloy may have an accelerating influence on the process of fermentation and with a view to discover any truth in this, a series of experiments have been made. And it has been found out with great joy and wonder as this happened to be my first success in an original investigation, that *fermentation of the cocoanut milk commences almost immediately in a bellmetal vessel, whereas in a nonmetallic vessel it is much delayed, and proceeds also with an appreciable amount of acceleration in comparison with that in other vessels.*

Nathan, Schidt and Fuchs have published in 1905 in their valuable contribution on "Fermenting liquids" that metalsh ave influence on the process of fermentation but their conclusion is that iron, tin, zinc, bronze, lead, aluminium and brass are powerful yeast poisons and, consequently arrest fermentation. Their experiments, however, are not quite similar to this, they had been dealing with the total yield of the alcohol. To have satisfaction about the complete similarity of conditions the observation of Purvis and Wilks had been utilised with advantage, who in 1907 concluded after numerous experiments that light has not any influence on fermentation except dark and white light have some accelerating influence in copper vessel. The acceleration of fermentation by very dilute solutions of salts of bismuth and tin have been observed by G.E. Jacquemin in 1907 and that by bismuth subnitrate and stannous chloride by G. Grimmel in 1908. The other workers on this subject are A. Harden and W. J. Young. In 1906 they have shown that sodium arsenite and sodium phosphate can produce an acceleration in process of fermentation of dextrose by yeast juice ; in 1910 they have suggested with experimental evidences the exact function taken by the alkali phosphate in accelerating the process of fermentation and in 1911 they have further experimented on the accelerating influences by alkali arsenites, arsenates and phosphates and in this elaborate paper they have also described that the salts of similar acids do not possess any such property. Though these researches do not actually render any direct or indirect support to the fact established in this paper yet the close analogy which they bear with the subject under discussion made them necessary to be tabulated here.

Evidently then it is scientifically correct to regard cocoanut milk in bellmetal vessel a substi-

* This sugar chiefly directly undergoes fermentation according to the equation.

tute for wine because almost as soon as the liquid is poured in it fermentation commences producing alcohol. Besides this there is another reason why one should not drink it from bellmetal vessel. It has been found experimentally that the milk also possesses the property of dissolving some part of the bellmetal. And as copper and tin are the chief constituents of the alloy, when ever taken internally will produce a poisoning effect on the human system.

REVIEWS.

STUDIES AND ESSAYS IN ENGLISH LITERATURE, by S. J. Mary Suddard, L. L. A. (Cambridge University Press). 6s. net.

The present work is a collection of thoughtful essays on some topics of English literature, and of learned studies of Keats, Shelley and Shakespeare. A glance at the chronological table appended, will convince the reader that these essays and studies were not written with a purpose; but that they are as many passages in the scholastic career of the authoress. And herein, lies their solidity. The impression made upon a virgin mind by the readings of the great masters of English literature—e.g., Keats, Shelley, Shakespeare, Chaucer, Swift, Wordsworth, Addsion—are here in exact facsimile.

The work has been divided into two sections. One is devoted to the systematic studies on the various aspects of the minds of Keats, Shelley and Shakespeare. The minds of these great poets have been brought inside out and shown to the readers. These are psychologically treated. Keats was only Keats, and Shakespeare was nothing more than himself, but the authoress of these studies has in her all of them; because it requires another Keats to appreciate him in a way in which the author of this Cambridge edition has done. The second section contains essays on some select topics of literature, such as *Wordsworth's Imagination*, *Ben Jonson and Shakespeare*, *Chaucer's Art of Portraiture*. These essays are as much marked by insight, acuteness, originality, and clarity as the studies, just referred to, are. In short, the collection is a possession which will always be of immense value to the seekers of knowledge in English literature, and the scholars equally.

GREEK EDUCATION by James Drever, M.A. (Edin.), B. SC. (Lond) (Cambridge University Press). 2s. net.

A book written by a student of Education for students of Education. The author declares that the main purpose of the work is to indicate what seem to him the essential lines upon which any discussion of Greek Education, that is to be of value to the student of Education, must proceed. The author sums up under two heads the essential characteristics of Greek education, which, both historically and educationally, are most significant for modern civilisation:—(i) In the first place Greek education is significant for the light which it throws on the relation of the individual to the State, and more especially because of its emphasis on individual development and individual freedom under circumstances and conditions, which make the phenomenon unique in human history. (ii) In the second place Greek education is significant as furnishing us with the earliest definitely and clearly formulated conception of what constitutes a 'liberal education,' a conception that in its essentials endured for centuries, and is only now being radically modified.

HIGHER ALGEBRA by Charles Davison, Sc. D. (Cambridge University Press). 6s. net.

The book covers the course of Higher Algebra from Binomial Theorem and Partial Fractions to Theory of Equations, Determinants, Continued Fractions, and Theory of Numbers. The collection of subjects for essays is a new feature of the

book. Each essay is intended to take about one hour. The essays will be found useful in leading the student to group together allied theorems in different parts of the book and in noticing how a theorem may have applications in widely different subjects. The treatment of the subjects is most clear and lucid. We hope our B.A. and B.Sc. students would find this book much helpful.

NON-EUCLIDEAN GEOMETRY by Roberto Bonola, Professor in the University of Pavia, authorised English translation with additional appendices by H. S. Carslaw, Professor in the University of Sydney N. S. W. (Chicago: The Open Court Publishing Co.) $ 2.00 net.

This book is an historical and critical study of the development of the subject of Non-Euclidean Geometry. In Chapter I which goes back to the work of Euclid and the earliest commentators on the Fifth Postulate [viz. *If a straight line falling on two straight lines make the interior angles on the same side less than two right angles, the two straight lines, if produced indefinitely meet on that side on which are the angles less than two right angles*] the author has given the most important arguments, by means of which the Greeks, the Arabs, and the geometers of the Renaissance attempted to place the theory of parallels on a firmer foundation. In Chapter II relying chiefly upon the work of Saccheri, Lambert and Legendre the author has tried to throw some light on the transition from the old to the new ideas, which became prevalent in the beginning of the 19th Century. On the whole the book is altogether new treating of a very important subject.

AIDS TO THE WRITING OF ENGLISH by Daniel Lazarus, B. A. (Madras, Methodist Publishing House). *Re.* 1-0.

A very useful book on English composition adapted to needs of students of Secondary Schools.

MORALS AND MORAL LESSONS by J. Nelson Fraser, M.A. (Longmans) 12 as.

HARISHCHANDRA by A. Srinivasachari. (Temple and Co., Madras). *Re.* 1.

This is the drama of King Harishchandra in English prose.

SCIENCE NOTES
And Other Interesting Items.

Latest in Wireless Telegraphy

ACCORDING to the *Matin*, a young French engineer has made a discovery which is likely to revolutionise wireless telegraphy. M. Branly, who is usually described in France as the inventor of wireless telegraphy, has been interviewed on the subject, and he seems inclined to attach considerable importance to the discovery. The article in the *Matin* is as follows:

"While one naturally recognises the immense services rendered by wireless telegraphy, it is important to bear in mind that so far the ingenious discovery of Branly can only be utilised in special cases, and that up to the present time its use has necessarily been strictly limited. Wireless telegraphy comes in only when it is not possible to instal wires or cables, that is to say, when it is necessary to communicate with ships at sea or armies in the field, or to traverse vast colonial territories barely explored and half deserted. The reason for this lies in the impossibility of placing a large number of stations, in the same zone without their interfering with each other, messages being received by them all simultaneously. It would, for instance be difficult to instal in France more than two stations for communication with New York, and even so these two stations would probably interfere with the English station, which already provides a service between England and Canada

"This objection is the more noteworthy as wireless telegraphy, in the existing condition of things, is very slow. While the Transatlantic cables can despatch 20 words a minute by the single system and 35 words by the duplex system, the long distance wireless telegraphy stations can send out at most 10 or 15 words a minute. Communications sent in this way from England to Canada attain a speed of scarcely more than seven or eight words a minute. It is stated, however, in scientific circles, that a young French Engineer has just discovered and has patented a new system of wireless telegraphy which will not only enable several stations to be established in proximity to each other without inconvenience, but will enable them to exchange communications ten times more rapidly than by submarine cables and at one-tenth of the cost.

"The author of this wonderful discovery is M. Julien Bethenod, a favourite pupil of Henri Poincare and a personal friend of M. Branly. This young scientist is already known as the inventor of an alternator, by means of which messages are sent out by wireless sound sparks. This alternator is in use at the Eiffel Tower, and is employed for military and naval purposes in several places in the Colonies. The invention of M Julien Bethenod consists in the main in this, that it substitutes for wireless telegraphy with sparks wireless telegraphy without sparks. In the case of wireless telegraphy with sparks the materials required are: 1, an alternator; 2, a transformer; 3, a self-induction coil; 4, a condenser; 5, an oscillator; 6, an antenna. With wireless telegraphy without sparks, on the other hand, all that is necessary is an alternator and

antenna. Of course, it is a special antenna that is required as well as a machine that is capable of sending out waves on the antenna that are in exact unison. The first advantage of this system will be that the waves sent out by the machine through the antenna will not be caught by machines situated in the same zone. Moreover, thanks to an automatic system of perforated bands, two stations will be in a position to communicate with each other at a considerable rate of speed, even up to about 200 words a minute. And, having regard to the greater simplicity of the installation, each wireless telegraph station, while able to do the work of ten cables, would cost barely a million francs (£40,000), whereas a single cable costs twenty millions (£800,000). Finally, owing to the new system, wireless telephony becomes at once a practical thing. With sparks, no more than 2,000 oscillations per minute can be produced, although the human voice is capble of producing 20,000 vibrations. Without sparks, it appears that it is possible to produce exactly 20,000 oscillations a second."

M. Branly has been interviewed, and he says it is indisputable that the use of sparks makes transmission slower, as they only allow of an interrupted current. With a continuous current apparatus a hundred thousand oscillations per second could be reached instead of the two or three thousand obtained at present. M. Bethenod's apparatus has reached, it is said, twenty thousand. Such a result, says M. Branly, would enable wireless telephony, which has hitherto been impossible at distance exceeding 50 kilometres, to be generalised.

Physical Chemistry of the loaf

THE question of strength in wheaten flour has of late years repeatedly engaged the attention of chemists. Recent researches, more particularly those of Prof. T. B. Wood, have established that strength, or, in other words, the capacity of the flour to give a bold, well-risen loaf, depends in the main on the influence of the electrolytes naturally present on the gluten. The difficulties of the problem have hitherto prevented a more quantitative study of the electrotypes present in flour, but a recent paper from the Carlsberg Laboratory, Copenhagen, by Jessen-Hansen, perhaps marks a first step in this direction. Use is made by him of Sorensen's methods of determining small amounts of acidity, either colorimetrically or by determinations of electrical conductivity, to study the degree of acidity, or, as it is usually termed, the 'hydrogen ion concentration, of a number of doughs made in the usual way.

In particular, the effect of the addition of different quantities of acid to the dough was examined, and the acidity compared with the result obtained on baking. The conclusion is drawn that there is a certain optimum concentration of hydrogen ions, in presence of which the best results are obtained on baking; this concentration is rather higher than that of dough prepared from natural flour and distilled water. It differs only slightly according to the the quality of the flour, being somewhat higher for the superior grades and rather lower for the lower kinds; it also differs slightly in flour milled from different parts of the berry, being highest for the so-called patents. The optimum concentration corresponds approximately to a hydrogen ion concentration of 10^{-5} normal, pure distilled water being about 10^{-7} normal. It will be obvious that doughs made in this country with the hard alkaline service water must diverge a good deal from this concentration.

Dr. Jessen-Hansen seeks to explain the effect of the various flour improvers which have been brought forward during the last year or so, as due to their increasing the hydrogen ion concentration and not to any subtle working of the improver as the patentee would sometimes have us believe. Nothing is said however to indicate in what way the optimum acidity may be supposed to condition the subtle changes in the gluten which produce a good loaf. It is perhaps significant that the acidity also corresponds to the optimum acidity for protein coagulation.—*Nature.*

Post Mortem Examinations for all

To educate the public to the value of postmortem examinations, two hundred members of the Associated Physicians of Long Island (U. S. A have decided to provide in their wills that their bodies shall undergo autopsies to make clear the causes of death. The physicians expressed their determination in resolutions adopted at a recent meeting, and one of their number said afterwards to a reporter:—"I want to make plain this point: That the physicians are anxious that the practice of holding autopsies should become general. We are trying to educate the public to the numerous advantages which may be derived from the spread of the practice. It will serve to protect the public from incompetent physicians by disclosing bad diagnoses, and will also reveal where the causes of death are suspicious, and where there have been illegal practices."

The Method-unit.

IT seldom happens in the case of physics or chemistry that the lesson-unit and the method-unit coincide, and any attempt to force such coincidence leads to serious faults of method. For example, acids, bases, and salts form a clearly distinguished method-unit, which cannot be separated into neat sequential divisions, each occupying one lesson. The subject will require from three to six

(or possibly more) lessons, according tothe previous knowledge of the pupils ; the later lessons contributing to the acquisition of a clear idea of chemical equivalence. At the end of the method-unit it is well to require written answers to a question paper, and the value of the work will be increased if an essay can be written on one of the main principles brought out by study of this particular method-unit. The organization of the syllabus into a well schemed series of method-units is an important aid to science teaching. If the syllabus has to be submitted to an inspector or examiner, the plan of paragraphing by method-units will make the recognition of the teacher's aims and methods more discoverable than is the case when a mere list of topics is submitted.

History of Logarithms.

In the current number of "*Science Progress*" there is a concise account of the genesis of logarithms. The author, Mr. Allan Ferguson, does justice to Napier and Briggs, both men of notably high character, who were united in strong friendship.

Incidentally the argument that schoolboys must approach logarithms through indices is crushed by the reminder that logarithms were used a hundred years before Euler taught that they were the indices of powers. Here we have one of many instances exhibiting the importance to teachers of the history of discovery.

GLEANINGS FROM CARLYLE.

A thinking man is the worst enemy the Prince of Darkness can have.

* * *

Not what I Have, but what I Do is my kingdom.

* * *

The end of man is an Action and not a Thought.

* * *

The painfullest feeling is that of your own feebleness ....to be weak in the true misery.

* * *

A certain inarticulate self-consciousness dwells dimly in us ; which only our works can render articulate and decisively descernible.

* * *

With other eyes, too, could I now look upon my fellow man : with an infinite Love, an infinite Pity. Poor, wandering, wayward man ! Art thou not tired, and beaten with stripes, even as I am ? Ever whether thou bear the royal mantle or the beggar's gabardine, art thou not so weary, so heavy laden ; and thy bed of rest is but a grave. O my brother my brother, why cannot I shelter thee in my bosom, and wipe away all tears from thy eyes !

* * *

Man's unhappiness comes of his Greatness ; it is because there is an Infinite in him, which with all his cunning he cannot bury under the Finite. Will the whole finance ministers and upholsterers and confectioners of modern Europe undertake, in joint-stock company, to make one shoe black *Happy* ? ... .try him with half a universe, of an omnipotence, he sets to quarrelling with the proprietor of the other half, and declares himself the most maltreated of men. Always there is a black spot in our sunshine.

What is this that, ever since earliest years, thou hast been fretting and fuming, and lamenting and self tormenting, on account of ?..... Is it not because thou art not *happy* ? Because the *Thou* (sweet gentleman) is not sufficiently honoured, nourished, soft bedded, and lovingly cared for ? Foolish soul ! what Act of Legislature was there that thou shouldst be Happy ? A little while ago thou hadst no right to *be* at all. What if thou wert born and predestined not to be happy but to be unhappy ? Art thou nothing other than a vulture then, that fliest through the Universe seeking after somewhat to *eat* ; and shrieking dolefully because carrion enough is not given thee ?

* * *

Conviction, were it never so excellent, is worthless till it converts itself into conduct. Nay, properly conviction is not possible till then ; inasmuch as all speculation is by nature, endless, formless, a vortex amid vertices : Only by a fleet indubitable certainty of Experience does it find any centre to revolve round and so fashion itself into a system. Most true is it, as a wise man teaches us, that "Doubt of any sort cannot be removed except by Action." On which ground, too, let him who gropes painfully in darkness or uncertain light, and prays vehemently that the dawn may ripen into day, lay this other precept well to heart, which to me was of invaluable service : "*Do the Duty which lies nearest thee,*" which thou knowest to be a Duty ! Thy second Duty will already have become clearer. ..... The situation that has not its Duty, its Ideal, was never yet occupied by man. Yes here, in this poor miserable, hampered, despicable Actual, wherein thou even now standest here or nowhere is thy Ideal : work it out there from ; and working, believe, live, be free. Fool ! the Ideal is in thyself, the impediment too is in thyself : thy condition is but the staff thou art to shape that same Ideal out of. .....O thou that pinest in the imprisonment of the Actual and criest bitterly to the gods for a kingdom where in to rule and create, know this of a truth : the thing thou seekest is already with thee, "here or nowhere", couldst thou only see !

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VOL. III THE COLLEGIAN No. 4
AND PROGRESS OF INDIA.

CALCUTTA, SATURDAY, NOVEMBER, 30, 1912

Literary Researches of an Educational Association in Bengal.

THE graduate booksellers of Calcutta, Messrs Chuckerburtty, Chatterjee & Co. have published an account of the Research Department of the District Council of National Education, Malda during the period from June 1907 to May 1912. The District Council is an educational organisation imparting manual, scientific and literary training to about one thousand pupils, and carrying on original investigations in Indian Philosophy, Sanskrit. Literature, Literary Criticism, Archæology, History and Sociology. Prof. R. K. Mookerji the author of the celebrated *History of Indian Shipping* and Prof B. K. Sarkar the author of numerous educational and historical works in Bengali and English who has devised the method of teaching Sanskrit without the use of Grammar are the Directors of the Research Section. Among permanent workers have been men like the late Mr. R. C. Seth B.L. who by his laborious researches created the interest of Bengali men of letters in the antiquities of Gauda the ancient Capital of Bengal. Pandit Bidhusekhar Sastri whose investigations in Buddhistic philosophy and Pali literature have been duly appreciated by specialists in those subjects, and Mr. Haridas Palit the indefatigable collector of manuscripts, traditions, folksongs, and other historical materials, whose learned work '*Gambhira*', as a history of one of the most important socio-religious institutions of Bengal, has opened up an altogether new field for Indian research scholars. Among the publications of this literary and educational association we notice the contributions on *The Lines of Industrial Advance in India—Small Industries, 'The collection of Indian economic data', The economic Botany of India, The propagation of Hindu Literature.*

A scheme for fostering Indian vernacular literature. A review of Kapalkundala (Bankim Chatterji's novel). *History of Scepticism and Positivism in ancient Hindu philosophy, Shipping Industry at Gauda. Rimavati, the capital of the Pal Kings of Bengal*, and *The Hindu University—what it means.* We may also point out the scientific, educational and historical contributions of their scholars in American Universities.

* * * *

Death of a Principal

WE regret to have to announce the sudden death of Mr. Dhanesh Prasad, M.A., Principal of the Kayastha Patshala, Allahabad which melancholy event took place either on Monday evening the 25th Nov. or Tuesday morning under strange circumstances. Principal Dhanesh Prasad was connected with the Kayastha Patshala for the last 16 years, during the last four years of which he was its principal. He leaves behind an old mother, two brothers and two sons, and a large number of friends to mourn his loss.

Madras Government and the Pandits

THE Governor of Madras in Council has sanctioned, proposals submitted by the Director of Public Instruction for improving the pay and prospects of pandits and other language teachers employed in Government schools and colleges. This will be subject to the modifications that the pay of the last grade should be Rs. 30-2-40 and that the increments in all cases should be spread over a period of ten years. The appointments of twenty pandits and munshis will be graded as follows :—Two on a pay of Rs. 80-4/2-100 each ; eleven on a pay of Rs. 60-3/2-75 each ; four on a pay of Rs. 40-2/2-50 each ; three on a pay of Rs. 30-2/2-40 each. The Government have approved generally the proposals to distribute these appointments among the various institutions and to alter their designation. The revised scale will be introduced from 1st March 1913. The Director of Public Instruction has been requested to submit to Government as accurate an estimate as possible of the probable amount that will be required for the payment of aid to other schools if the authorities of those institutions undertake similarly to enchance the pay of the language teachers in their employ.

Principal Paranjpye and Religious Instruction.

THE views of Principal R.P. Paranjpye of Fergusson College on religious instruction in schools are well known. In his latest contribution to the discussion of the subject Mr. Paranjpye makes some observations, which we bring prominently to the notice of our readers. Says Mr. Paranjpye :—

When some young men had their heads turned and did wild deeds in false imitation of the ideas they had superficially taken in during their school career a unanimous cry arose from the politicians that our godless education is sapping the morals of the younger generation. This cry had begun some time before when the older generations of Indians saw the young men neglecting their religious duties and trying to judge even their religions by the light of their reason. This very claim to judge religion by reason sounded presumptuous and western education came in for a good deal of blame. Attempts were made in Benares, Lahore, Aligarh and other places to have schools and colleges imparting religious education and time alone can decide whether their *alumni* are a better set of people than those who have only received secular education. If any questioning of religions (by our educated men) is to be stopped, the only remedy is to stop all education which appeals to reason, i. e., to stop all western education. Ever in the West, Christianity has had to change its points of views any number of times. It is not to be expected that religion will remain permanently outside the range of discussion. As to influencing the political opinions of young men by means of religious education, the idea is absurd. Have we not had some persons using religious sanctions to uphold their extremist or anarchical views? Many sane Indians regard this patent nostrum of religious education as altogether futile. They look upon it as a backward step and as such calculated to retard the progress of India.

The Universities.

MADRAS UNIVERSITY.

University Lectures.

With reference to the University Lectures under Regulation 394 sanctioned by the Senate for the academic year 1912-13, it is notified that the course of 20 to 25 lectures on "The Federal state of the Anglo-Saxons. *i. e.*, a historical and analytical account of the constitutions of the United States of America, Canada and Australia" to be delivered by Mr. H .J. Allen M. A., and the course of 20 lectures on "Historical English Syntax" to be delivered by the Rev. J. M. Craig, M. A., B. D., will be delivered during the third term of the year, the former at the Presidency College, commencing on Tuesday the 7th January 1913. The days and hours for the delivery of each lecture of the former course will be Tuesdays and Fridays at 2 P. M., and those of the latter course will be Mondays and Fridays 2 to 3 P. M. The lectures will be open to any student who is taking an Honours Course in any College affiliated to the University, on the recommendation of his College authorities. No fee will be charged for attending the course of lectures, but a student shall not attend the course till he has paid the usual fee to his College for the term. The lectures will also be open to graduates of the University who wish to engage in post-graduates study and research on payment to the Univeriity of Rs. 50 per course per term, and with the sanction of the lecturer appointed. Post graduate students who are members of a college will not be required to pay this fee.

A special meeting of the Senate of the Madras University is to be held on the 29th November when the Hon. Mr. Justice P. R. Sundara Iyer will move that the resolutions passed by the Senate in Committee on the 25th and 26th October, regarding the appropriation of a recurring grant of Rs. 65,000 and a non-reccurring grant of Rs. 4,00,000 to the Madras University work be conflrmed.

BOMBAY UNIVERSITY.

INTERMEDIATE SCIENCE EXAMINATION,

Second Class.

Examination Results.

5 Desi G M, 7 Dikshit K N, 14 Joglekar R S, 15 Kale P B, 23 Mulani H M, 27 Pereira J S, 31 Sanjana N P, 33 Sitlani M C, 34 Thadhani G T, 35 Thadhani T V.

Pass Class.

2 Bhadbhade M L, 8 Dikshit M P, 9 Ezekiel Moses. 18 Kapadi S L, 20 Marathe S G, 21 Master R S, 22 Mehta J L, 24 Muley G D, 32 Shivdasani D T.

Not Classed.

39 Warden H D, 42 Warden H B, 43 Apte N K, 45 Bhandare R G. 16 Gokhale J G, 47 Kale C G, 48 Phadke G N, 49 Rajwade C V, 50 Sarangdhar V N, 51 Wagle B V, 53 Bhate S R, 54 Chaudhari R H, 55 Nadkarni G S, 56, Nanavati KK, 59 Dhond PA, 60 Parulekar R V.

F. E. EXAMINATION.

First Class.

9 Butani T H, 16 Gadre D S, 17 Gandhi K J, 25 Jayaramachar B, 26. Joshi K D, 34 Khathuria B L, 37 Lele M C, 52 Rangaswami C, 53 Sanyal S, 55, Sheth C C, 56 Shirgaokar G V, 64 Venkatacharia Y R, 67 Vyas B S

Second Class.

1 Antia M S, 5 Bhattacharya T C, 6 Bhave V G, 7 Bhuta O K, 8, Bisen M M, 10 Chinoy A E, 14 Doshi B V, 18 Gandhi K G, 19 Gandhi P M, 21 Gianchandani B P, 22 Gokhale N G 23 Hivargaonkar R B, 24 Jasingani H G, 27 Joshi V G, 29 Kamdar P V, 32 Karekar Y V, 33 Katak M N, 35 Kora C B, 40 Lohit M D, 41 Malse V N, 43 Mistry F D, 41 Narasimharao D V, 45 Panyam K R, 46 Parekh V S, 47 Patel B J, 48 Paymaster C J, 51 Ranga I K, 54 Sathaye V D, 57 Shirolkar Y A, 58 Shroff I. F, 59 Sitaramarao Ramanathapur, 62 Tarapurvala S J, 63 Tarapurvala E A, 64 Unwala P R, 65 Vatve B B.

No. 25 Jayaramachar B, wins the Colonel Patrick French Scholarship.

S. E. (CIVIL) EXAMINATION.

First Class.

11 Dalal C C, 13 Desai H N, 25 Flores B M, 34 Hukeri D A, 44 Kshetramade S B, 53 Parekh R D,

Second Class.

4 Bhave B D, 5 Bhide K R, 6 Bose B K, 12 Daruvala D H, 14 Deshpande R S, 16 Dhavale K V, 17 Dhoria M A, 18 Dighe S B, 19 Dikshit C M, 20 Divecha E J, 22 Dutt S N, 24 Engineer R K, 28 Gimi E B, 30 Gokhale P N, 25 Joshi S V, 36 Jussawalla J R, 37 Kanga A S, 38 Kapadia P P, 39 Karve K V, 40 Katpitia E J, 42 Kinkhabvala G M, 45 Kulkarni S R, 64 Mehta B M, 48 Mehta S H, 49 Modi K C, 50 Motiwala A K, 52 Panse G V, 56 Rajam I M K, 57 Ramaswamy Iyenger H, 59 Sardesai B R, 63 Sirvai J F, 65 Subrahmanya S K V, 67 Surveyor S M, 70 Tenkannah P, 72 Venkatavaradachar Holavananalli.

No. 63 Sirvai, wins the Nuserwanji Jchangirji Wadia Scholarship.

ALLAHABAD UNIVERSITY.

Senate Meeting.

A meeting of the Allahabad University Senate was held on Friday the 15th evening at the University building. Dr. Sunder Lal Vice-Chancellor of University being in the chair. The business was mainly of a formal character. Members of various Faculties were elected.

Election of Fellows by Registered Graduates.

One of the important items before the meeting was the passing of certain rules for the election of Fellows by the registered graduates.

The Hon. Mr. C. F. De la Fosse, Director of Public Instruction, in the course of his speech said that it was the wish of the Government that the registered graduates should be enabled to exercise the privilege of electing their representatives on the Senate without any further delay and accordingly a resolution was moved and accepted to the effect that all graduates who had been registered by the 1st of November should be entitled to vote at the election of a Fellow to be held in 1912.

The Mayo College.

Another important item was the rejection of the proposal to recognise for university purposes the diploma of Mayo College at Ajmer.

No controversial subject was on the agenda.

Annual Convocation 1912

Sir James Meston presided at the Convocation of the Allahabad University on the 16th November. A degree of L. L. D. was conferred on Mr. Surendra Nath Sen. Miss Saraswat Singh received the degree of M. A. Seven ladies receive the B.A. degree. Besides a large number of other degrees were conferred.

The Vice-Chancellor, the Hon. Dr. Sunder Lal,was "At home"to a large number of guests after the Convocation.

CONVOCATION SPEECH

of Sir James Meston

Mr. Vice-Chancellor, Fellows and Graduates—

Our Convocation to-day is held on the 25th anniversary of the incorporation of the University of Allahabad. Our Act or Charter passed into law in September 1887 : and on the 16th of November in the same year the University came into existence as a corporate body,with that distinguished administrator and scholar, SirAlfred Lyall, as its first Chancellor. We meet then on an auspicious day, with quarter of a century of history behind us. Brief indeed is that period beside the venerable antiquity of the great universities of the West. But for the wide-reaching provinces in which this University has raised the torch of learning it has been a period of progress in which our Alma Mater has played no small or ignoble part. Into the public services, into the learned professions, into the world of trade and industry, she has now been sending her sons for a generation, and she may well be proud of their record. Much lies before her in the near future. New lines of thought, new social theories will force themselves across her traditions. New fields of teaching will have to be surveyed and entered upon. The intellectual basis for new claims of personal right and new ideals in politics and morality will have to be searched and tried. The burden of these changes will press upon us all, but it will rest in a special manner upon the University and on those whom it sends out to influence the young. All your wisdom will be required, all your patience, all your patriotism, if the result is to be good and not evil. The task is no light one ; but your experience of the past 25 years may inspire you with the hope of success. You have worked

with those who have the good of India at heart ; you have rooted the University in the confidence of the people ; you have assisted and co-operated with the government of the country. If these continue to be your principles, a brilliant future lies before you.

During the last academic year, the University has shown all the vigour of its comparative youth. It has affiliated a number of important colleges in additional subjects ; it has settled new regulations for degrees in medicine and surgery ; and it has examined altogether the very large number of 6,861 candidates. It has gained a new dignity in the handsome Senate Hall which was formally opened last August ; and it has suffered a severe loss in the resignation by our Chief Justice of the Vice-Chancellorship which he had held for the previous three years. The lustre and distinction which Sir Henry Richards lent to that office, and the energy with which he devoted himself to it amid his may other pre-occupations, are well known to those of you who worked under him, and have earned for him the gratitude of the University. I can wish his successor, Dr. Sundar Lal, no kinder fortune than that his reign may be as successful and as popular as that of our distingished Chief Justice.

Members of the University, when your present learned Vice-Chancellor invited me to address Convocation to-day, he suggested that I should explain my views and the policy of the local Government regarding education. To do that would eat up the short hours of the remaining day, and would unduly detain our young friends who are are eager to return to their homes in all the new dignity of their degrees. But perhaps you will accept a brief outline of how I estimate our present and immediate needs. As we know well, education, like religion, comes to bring not peace but a sword. It brings not the peace of passive acceptance, but the sword of questionings and searchings and strivings. To some minds it brings more. They see in education the motive power for that unrest which makes men discontented with their social environment, with their employers, with their government. They regard education as responsible for the disrespect of servant to master, of the young to the old ; responsible for sedition ; responsible for many disquieting inroads on our ancient peace. With such doubts it is impossible not to feel some sympathy. But we may look beyond the present twilight of our educational system to a clearer day. The stage of transition and adaptation to new ideas may be long. It will pass however—such at least is my hope and belief—into a stage where education will not be divorced from contentment, or the pursuit of knowledge from reverence.

In any case, gentlemen, the practical position with us is free from all ambiguity. The gracious announcement of the King-Emperor at Delhi has shown us the way and set us our course. The Government of India is presided over by a Viceroy whose warm sympathy and unsparing labour are, as I can assure you from personal knowledge, devoted to the advance of education. And under Lord Hardinge's Council, you have a skilled department specially created for that cause and now settling down to the great task before it under the brilliant leadership of one whom you all know, Sir Harcourt Butler. The Government of this country has thus put its hand to education, and we cannot turn back the hands of the clock. My views, and the policy of the Local Government, are therefore exceedingly simple. We are bound to push on the education of the people, in all its branches, by every means in our power. A comprehensive scheme of our operations is now being prepared. It will show, I hope the order in urgency of our needs, their approximate cost, and the ratio in which the work may properly be shared between Government, local bodies and private enterprise. When the scheme is ready, we hope to publish it for discussion before it is submitted for final authorization, and to be favoured with the opinions on it of the University in particular. What the scheme will comprise, I cannot yet say in detail ; but certain essential features in it are clear and I will mention them in the briefest possible manner.

Let us begin with primary education. We hope to see it widely extended as rapidly as respectable teachers can be procured and trained. For that purpose we must establish more training centres ; and above all, we must provide for a scale of pay which will enable our primary schoolmasters to live in decency and self-respect. There is no reform with stronger claims upon us in common humanity and in the interests of the rising generation. Then we cherish the belief that primary educa-

tion could be made much more serviceable to the people if it took more account of the needs of the agricultural and artisan classes. A proper system of primary education should provide suitable instruction, not only for the children who will use the primary school as a stepping-stone to the secondary school and thence ulimately to the University, but also for the children whom it is not desired to withdraw from, or make discontented with, their ancestral callings. The subject is beset with difficulty,and the precise methods of approaching it,—whether by a general simplification of course with primary schools, or by the esttablishment of separate courses and classes, or even by having separate schools for the children of agriculturists and artisans—has yet to be ascertained. It is clear, however, that our schools at present do not attract the children of the classes as we should wish, and it may be that this is due to the unsuitable character of the education we offer. A system which, while avoiding scholastic curricula, would aim at guiding the self activity of the young mind, and to imparting such simple knowledge as will be useful to them in their daily work, and will help them to avoid the petty tyrannies of life which ignorance engenders, might conceivably do much to overcome the indifference with which the rural classes now regard education. Such in the barest outline, are our ambitions for primary education. There are many details yet to be considered, and during the present cold weather we hope to have the advice of a conference of officials and non-officials interested in this branch of our work.

In regard to secondary education, there is little to be said except that we are anxious to give reasonable inducements to private endeavour. It is difficult for Government to gauge the true demand for this class of instruction, and it would be impossible, with the resources at our disposal to cover the whole field. There are gratifying signs of increasing activity in this direction among private groups and sections of the community. High schools for different castes or religious bodies are springing up, and seem to me to deserve an encouragement; for it is at this period of life that the formation of character can best be served as the discipline of a common faith and communities. There will be no backwardness on the part of Government to assist such efforts, the proof of sound education and good morals. But on one point we may justly insist, that these schools and all our high schools give something more than lip-learning. Their scholars are at the age when habits are most easily moulded; and it must be one of their first duties to inculcate obedience, manners and cleanliness. To this end, proper boarding houses or hostles, in sanitary order and under the personal supervision of trusted masters, will gradually become a condition of our grants-in-aid.

Technical and special education are subjects on which I need not occupy time to-day. They, and the equally thorny but, to my mind, all-important subject of female education, hardly lie within the purview of the university, though I am confident of the advice and, if necessary, the assistance of the university in dealing with them. For almost the exactly opposite reason, I do not propose to touch on collegiate education; its characteristics follow so closely the requirements of the university that no discussion of them, without previous consultation with you, would be seemly. Here also, however, may I say how deeply I am impressed by the need of exhibiting in our colleges those qualities which no book-study can impart. Some of our colleges already do a great deal in this way; others do little; all of them could do more. Good manners, courtesy, cleanliness in person and in surroundings, self-restraint and self respect—these are infinitely greater gifts than a knowledge of Hegel or the binomial theorem; and is it not possible for all our colleges to put them in the forefront of the battle? Members of the university, I leave the question in your thoughts. Government will do what it ca.., by making grants for the improvement of the pay of teachers, by building hostels and by pressing for adequate supervision. But the in-dwelling spirit from which these virtues flow must spring from the minds and influences of those who have the colleges under their daily care.

Lastly, we come to the university itself. For it I hope that our scheme will provide liberal assistance. By the establishment of a Law College the first step has been taken towards the transformation of the university from a purely examining body into a genuine teaching university. The orders of the Government of India on your proposals for the utilisation of their recent grants of Rs. 45,000 a year and a lump sum of Rs. 3,00,000 in the establishment of three additional chairs are

still awaited. I trust that in principle at least your suggestions will be approved. The most urgent need of the university is more teaching and more post-graduate and research work. Apart from this, money is required for the construction of the library block, Sir Swinton Jacob's plans for which are ready for a Law hostel, for residences for the Principal of the Law College and the professorial staff to be attached to the contemplated chairs, for the purchase of books and for general administrative purpose. For some of this we look partly to the endowments of pious donors; but Government will also try to help, as it is identified with the progress and dignity of the University which, whatever the future may bring, will always retain the honour of being the senior in these provinces. And now, gentlemen, you have my confession of faith about education. I have omitted much, and especially all controversial matter. There is nothing new in the statement, nothing original. Most of the reforms on which I have touched were worked out under my predecessor Sir John Hewett, and all that is now being done is to bring them together. For saying so much as I have done, my excuses must be the Vice-Chancellor's injunction and a desire to avert any suspicion of heterodoxy in my educational creed.

Members of the University, I must not tax your patience much longer. But will you at my first meeting with you, permit me the expression of a few thoughts which I would commendto you and to the young graduates who have to-day received their degrees. I do not profess to speak to you as a man of learning. I do not wish to invoke the gubernatorial authority which has been for only two months on my sholders. But I have had a great deal to do with University men, and I have watched the career of many of them with affectionate interest. Above all, I have a fervent faith in the rise and progress of India, and a deep conviction of the part which our universities can play in the upward movement. It is is on your citizenship therefore that I should like to offer a few words of advice to graduates and undergraduates alike. I am not going to weary you with platitudes about education being a means and not an end; or about the imperfections of our literary training; or how your education does not conclude but only begins, when you take your degree. All that is common knowledge and until we can make our educational system a more powerful agent for touching the soul and tempering the character, these truisms are but irksome verbiage. What I ask you to consider to-day is the special obligation of life and example that rests on you as University men, you go out to work among your fellow citizens. You may forget much of what you learned at College. Your classics may get rusty, your science out of date, your history shaky, your integral calculus a nebulous memory, but the spirit of your college life should remain the hard work, the "esprit de corps," and the balanced judgment; and it is this spirit with which you can illuminate the ordinary business of life. Moreover, a degree makes you a marked man; your neighbours watch you, copy you, are influenced by you in a manner which you may not suspect. Each of you in his circle is the touchstone by which the value of education is tested; and on your conduct the credit of the University largely depends. What is it then that you can carry away after your college days are over, and use for the bettering of your fellows by precept and by example? There are many such things; but three of them stand clearly out. You have learned the need of a calm and balanced judgment, the value of co-ordinated effort and the supreme power of truth. I have a very few words to say on each of these.

Calmness of judgment is what your books have surely united to teach you; the dispassionate marshalling and weighing of facts in order to determine their effect. The need for similar judgment must appeal to you every day in the practice of your profession or calling, it turns the balance between success and failure at every step in your own affairs. Will you not use it also, gentlemen, for the benefit of your neighbours? Their judgment has not been trained as yours has been. They will turn to you for guidance. When foolish and baseless rumours are unsettling the people, whether about public affairs or otherwise, you can do much to dispel them. When gusts of emotion stir the crowd, you can apply the sedatives of common-sense. Bogus nostrums, in politics, in medicine, or in any other sphere of life, do not take you in, and surely you can help to relieve your neighbours of their tyranny. You have been taught to judge between good and evil. Exercise that gift, and lend it to your neigh-

bours. You will thus help to make them happier and better citizens.

The second lesson which I ask you to share with others is the value of combination. It is not a lesson that needs a University to teach it: but your history and your mathematics must have given you a scientific basis for it, and must have taught you to be peculiarly watchful for the beginnings of friction and disintegration. You know, with a conviction that passion should never shake, how certainly dissension undermines the family and the State. It is to you educated men that the well-wishers of India look, to check dissension and to impress on your neighbours the disasters which attend it. You have endless opportunities. There are the family quarrels which are constantly with us; they have often the most trivial origin; but their net results is that enormous sums are poured into litigation which the country sadly needs for fertilizing its soil and fostering its industries. Then again there are the petty jealousies which clog public life and interfere with municipal advancement. And there are many other instances of wholly needless friction. To my mind, none of these at the moment is sadder or more unnecessary that the acute distrust which in many quarters is threatening to break up the old friendships between Hindus and Mahomedans. If it were a mere passing wave of temper, I should say nothing about it. But, in parts at least of these provinces, racial feeling is now permeating and embittering the life of the community to an extent which I have never observed before. There is no justification for it. Hindus and Mahammadans have lived in amity in the past without any sacrifice of their respective religions. Nothing has happened to make it impossible for them, with a little mutual forbearance, to do so still. Gentlemen, there is much that you can do to prevent these divisions. When I enquire into the causes of schism, I am sometimes told that educated or professional men have been involved in fomenting the trouble. I hope and trust that my information is wrong; I set too high a value on education to believe that it can readily be degraded to such a use. I am confident that you at least will place patriotism above self-interest; and I appeal to you to exercise all your influence, in your various spheres of life, to check these growing evils. India cannot be divided and prosper.

The last point on which I wish to touch is the supreme value of truth. If, as we believe, righteousness exalts a nation, it is your duty and mine, if we wish India well, to wage incessant war on half-truths and falsehoods. Your education has taught you the great and ennobling power of truth. Carry that knowledge into the circle where you live and work. Set your face against intrigue and back-biting. Practice plain-speaking and encourage it in others. When the people are being misled by a false guide, help to unmask him. When lies are circulated about the action of Government, or the motives of your public men, or the character of your neighbours, disown the falsehood and attack them. Education has stood for the removal of corruption from public life, from the public services. Let it make an equal stand against intrigue, misrepresentation the thoughtless untruth, the malicious life.

Members of the University, I have come perilously near to preaching you a sermon this afternoon. I ask for your indulgence if I have strayed beyond the ordinary academic limits of a Convocation address. But, you who represent the forces and products of education in these provinces, are, if I can gain your confidence and co-operation, partners with Government in the great work of progress and enlightment. At this my first meeting with you, it is my anxious desire to bespeak your help and to suggest the lines on which you can work for our common object. Education has its responsibilities as well as its priviliges. Accept these responsibilities and join hands with those who have the welfare of India deep in their hearts. So shall we move forward slowly to a great Imperial ideal of citizenship, like unto the 'sacred fane,' which was to be no home of party, strife or sectarian schism.

'But loftier, simpler, always open-doored
To every breath from Heaven; and Truthand Peace
AndLove andJustice came and dwelt therein.'

Such, according to the poet, was the dream of the Emperor Akbar. It may be only a dream. The millenium is not yet. Universal peace and happiness is a far-off ideal. But we can all of us in our degree influence those around us; and the influence of an educated man has a value particularly its own. If you can use that influence in the direction of greater charity, concord and truth, then the university will be justified of her children and the Kingdom of God will be nearer.

The Colleges
And Schools

Calcutta Presidency College Geological Institute.

A well-attended meeting of Science students was held on Friday the 15th inst. at the Presidency College. Mr. E. W. Vredenburg, Superintendent of the Geological Survey of India presided. Babu Suresh Chandra Datta, M. Sc., read a paper detailing his researches on "Subsidence of the Saugor Area." The lecturer was complimented by the President and Mr. Brown of the Geological Survey on the new facts brought to light by him.

St. Xavier College Lord Carmichael visit.

On Thursday morning the 14th November His Excellency Lord Carmichael accompanied by Mr. W. R. Gourlay, Private Secretary, and Captain Hodgson, A. D. C., leaving Government House by a motor-car, paid a private visit to the St. Xavier's College, Calcutta. Dr. Kuehler the Director of Public Instruction who preceded His Excellency received Lord Carmichael in the company of the Rev. Father Schelle, Acting Rector, Prefect Father Harris, Rev. Father Van de Mergel, at the portico. The College band on His Excellency's arrival struck "Les Amis Wallons" and the Cadet Corps, numbering fifty under Color-Sergeant Holdsworth of the Second Calcutta Volunteer Rifles, presented arms. His Excellency was taken round the various departments of the College—the Chemical and Physical laboratories, the Goethal's Library and the observatory. In the Library, which is a treasure house of the books relating to India, especially to the Province of Bengal, His Excellency spent a major portion of his time making critical enquiries about certain books. After spending nearly an hour in inspection, His Excellency took his departure, expressing his satisfaction at what he had seen. A young cadet, who is a boarder approached His Excellency as he was stepping to his car and requested that they might be granted a holiday in honour of his visit. Lord Carmichael smilingly replied, "Of course, that goes without saying." This announcement was received with applause by the other boarders. Thursday being the usual weekly holiday for the College His Excellency was not able to see the boys at school.

The College Annual Sports.

The annual athletic sports of the pupils of St. Xavier's College was held on Saturday the 16th Nov. on the College ground in Park Street. The weather being all that could be desired, the events were decided under most favourable conditions. The attendance was very large. The boys had to compete in divisions, and there was a difference of two years in the ages of the competitors, in each division. Keener competition might, perhaps, have been witnessed had the sprint events been handicaps. However, the sports on the whole were a great success, no fewer than four previous records established at these sports being broken. C. Johnson won the aggregate cup; but his timing in the quarter mile was poor.

At the conclusion of the sports Lady Frederick Halliday, who was accompanied by her husband, the Commissioner of Police, presented the prizes. The Volunteer and Town Band added to a most enjoyable evening.

The Sports Committee was constituted as follows:—President, Sir A. A. Apcar; Referee, Col. J. Binning; Judges, Mr. J. F. Greig, Mr. J. A. Tassie, Col. W. T. Grice; Time-taker, Mr. J. F. Read; Starters, Dr. J. H. Gray. Mr. J. C. McLeod; Callers-over, Mr. J. O'Connell Mr. S. Hatton; Marker, Mr. A. Vaughan.

Murari Chand College Sylhet.

MR. CUNNINGHAM, Director of Public Instruction, was in Sylhet since the 9th November, Many non-official gentlemen, besides the members of the Committee who voted in favour of the site already acquired for the Murarichand College, interviewed him and placed their objections against Thackeray Tila. The final decision it is expected, will await the Chief Commissioner's coming visit to Sylhet. The site originally selected for the Madrasha has been abandoned and the plot acquired for the college near the Dorga has been proposed.

Calcutta Blind School.

THE following donations have been received:—Mr. W. R. Gourlay and Rev. R. G. Milburn Rs. 50 each; Principal James Rs. 20, Babu Biswesswar Lal Rs. 11, Messrs. Anderson Wright and Co. Rs. 25, the teachers and students of Hare School Rs. 34, Messrs. Begg

Dunlop and Co., Mackenzie Lyall and Co., Birkmyre Bros., Lovelock and Lewes, Mc Neill and Co., Kerr Tarruck and Co., Kilburn and Co., Bird and Co., F. Power, A. Hinds, Heatly and Gresham, Rs. 10 each; Messrs Angelo Bros, T. C. Haywood, W. Mann, H N. Dutt, Trikamji Jivandass, J. M. C. Manuk, and Dr. Finks, Rs. 5 each.

Patna College.

A large party of students of the Patna College, headed by Professor Russel, Jackson and Samaddar, went to the Rajgir hills to see the ruins of Ajatsatru's capital during the last Kali Puja holidays. Owing to an accident to Prof Samaddar, which injured one of his eyes, he had to return soon to Patna, but the remainder of the party did very good work. Some of the students visited the ruins of the Nalanda monastery, while others repaired to Bihar to see the famous tombs there.

Madras Presidency College. H. E.'s visit.

H. E. the Governor accompanied by an Aid-de-camp visited the Presidency College. His Excellency was received at the entrance by the Hon'ble Dr. Bourne (Director of Public Instruction) and Mr. E. W. Middlemast (Principal of the Presidency College) and conducted round the library, and the various laboratories. The visit lasted an hour and His Excellency drove back to Government House, Madras.

The College Union Society.

Under the auspices of the Society two meetings were held, one on the 11th November 1912 when Sir C. Sankaran Nair presided and the second on the 14th November under the chairmanship of the Hon'ble Mr. P. S. Sivaswamy Aiyar. On the 11th, Mr. C. Gopala Menon delivered a long and interesting lecture in the course of which he said :—

Lecture on Economics.

There is a lack of interest among Indian students in the study of Economics. This is due to two main causes. First they lack in that spirit of industrialism and commercialism as in the West. The Science itself is one of recent origin so that people in India have not devoted so much attention to it as it deserves. The lack of interest may also be due to the fact that there are no attractive prizes in the economic profession. The Professorships are few and the talents which may be exercised in economic work are directed into more profitable vocations. This science is the youngest of all Sciences in India and offers the virgin soil for study and research.

The lecturer then gave a brief survey of the ancient rural condition in India from the time of the Vedas and Manu. He gave full descriptions of economic and trade conditions from the 6th century and treated the economic development of India from that period to 16th century. He then dwelt upon the natural resources of India under the heads of natural products, labour and capital. He concluded by his remarks on the latest movement of the co-operative Societies for agricultural and other purposes.

The Honble Sir Sankaran Nair then spoke in the course of which he said :

I do not know whether the state of things in this college is the same as it was when I was a pupil here (cheers). That was long ago. Then most of the students of this college were boys from the mofussil. Not many belonged to this city itself. If that is so, I can well imagine how the villages in our country are suffering by this emigration, so to say, to this important town; because I have very little doubt that those who come here leaving their own villages are perhaps the most energetic, and the intelligent of the villagers themselves.

They leave their own villages and seek their education elsewhere to better their fortunes and to the good of the country. If that is so, it is a matter on which we cannot congratulate ourselves very much. It is our duty to see what we can do to improve the country which practically most of us are deserting for the cities. Though we may have left it in some form or other, we are always interested in it. Most of us, I take it, are members of some joint families who own lands in the country. We are interested in that way in the agricultural progress. You know that the progress of our country depends a good deal upon the progress of agriculture; because not only are we directly interested in it, but the manufactures and commerce of the country depends a good deal upon it. You must therefore consider what should be done in the interests of our villagers. A good deal you know now or you ought to know—if it is not being taught in your colleges your professors are responsible (cheers)—about what co-operation

among the villagers is doing in the direction of progress. Many people are combining together and pledging their credit, so to say, for the benefit of any one of them to whom money may be advanced. Co-operation has done a good and you will find its advantages in the reports that are published. You can easily find them from your professors. When the villagers pledge their credit to the loan advanced to avillager for Agriculture or for anything else, that money is not the money of the village itself. The villagers do not combine amongst themselves to raise the money in order to advance to one of them. The profit now goes to outsiders. Money is sent from Madras to be advanced to villagers who do not get the full benefit of it. We must carry Co-operation further. I would ask you very strongly just to enquire and find out in what respects it is that a good deal of the wealth of the villagers is lost by want of a little help. For instance the produce that is raised in the country has to be sold to pay Government revenue and for various other purposes. That is done in a wasteful way. The villager is unable to find for himself the best market for the produce. It goes to one man through two or three midddlemen who carry away all the profits. The villager does not get what he ought to get. If the villagers combine amongst themselves they can keep those profits. This is a co-operative movement for the sale of their articles. By this they can almost double the wealth of the village.

Co-operation may be applied to the purchase of things also. Many things are brought here, finally through three or four middle men. Villagers through their own co-operativeSociety can find the best markets for purchase of things. I can go on enumerating instances one by one. But I am only mentioning small things to you ; because almost the foundation of our progress is our own village progress. It behoves us who have received any education to see that the villagers do not lose anything if we can possibly help them. These do not require any great capital or effort, but character. The villagers must be able and you must be able to induce them to trust one another. If we cannot trust one another there will be no progress. Co-operation is at the root of all progress in big or small undertakings.

There must also be efficiency. A good deal depends upon the work-men and upon the other classes who direct the labour. If villagers should progress they must attend more to their own sanitary and hygienic conditions. They should see that they take sufficient food in order to improve themselves. For that you have to see how far our joint family system stands in our own way. You must consider that question for yourself There is no good of taking the opinion from other people. You can judge of these things from your own experience as well as the experience of your neighbours. Our joint family is undoubtedly a refuge for orphans, aged persons and widows. It is also a refuge for idle men and parasites who live upon others who work. Boys who are come here are determined to work for themslves and not be dependent upon others. I hope you will realise my hopes at any rate.

On the 14th a lecture on love of India was delivered by Mrs. Whitehead. There was a large gathering of students. Some of the Professors and Pandits of the College were also present. Mr. S. Srinivasa Aiyangar, High Court Vakil, and Mr. V. S. Srinivasa Sastri of the Servants of India Society, were also present. Mrs. Whitehead said that by love was not meant the mere emotional element. The other element was sacrifice. In every thing sacrifice must come in along with emotion. Sacrifice played a great part in progress of any country. She then dwelt on the differant problems of India which needed solution : the race problem, the depressed classes and the like.

Sir H. Butler at Hindu High School, Triplicane

The Prize Distribution of the Hindu High School, Triplicane. was held in the Singarachari Hall of the school on the 16th November 1912 with the Hon'ble Sir Harcourt Butler in the Chair. The Hall was filled with the pupils of the school, their parents, guardians and well-wishers. Among the gentlemen present were the Hon'ble Sir J. E. P. Wallis, Mr. A. C. Pranatharthihara Aiyar Mr. C. R. Thiruvenkata chari. Prof. B. Hanumantha Row, Mr S. Srinivasa Aiyangar, Prof. Sivakumara Shastrigal, P. Seshadri, Prof. A. Subramanium T. A. Sundram Aiyar. Mr. G. A. Natesan Mahamahopadhyaya Swaminatha Aiyar, Mr. V. S. Srinivasa Sastri, Mr. T. Rangachari and Rao Bahadur M. A. Parthasarathy Aiyangar.

In the course of an eloquent address Sir Harcourt referred to the great interest evinced

in Indian education by His Majesty the King-Emperor and said that the Government of India and all Local Governments were doing everything in their power to promote education on all sides. Sir Harcourt also dwelt on the importance of secondary education and concluded with the hope that in Madras as in other Presidencies private individuals would come forward with requests for educational purposes.

Sir Currimbhoy Ebrahim School at Poona. Laying of the foundation stone. Governor's speech.

A large gathering which included the leading members of the Mohammedan community, Hon'ble Sir Richard Lamb, Mr. S. E. Jafer Beg, the Turkish Consul General, Major Genl Barter, Mr. Prior, Director of Public Instructions and Mrs. Prior, Mr. Fazulbhai Chenai, Mr. S. A. Wahed, Sirdar Nowrojee Pudamji, C.I.E., and many others assembled on the open space in front of H. H. the Aga Khan's bungalow on the 13th November 1912 to witness the ceremony of the laying of the foundation stone of Sir Currimbhoy Ebrahim School by H. E. Sir George Clarke.

His Excellency who was accompanied by Lady Clarke and Captain Davies, A.D.C., was received by Mr. Fazulbhai Currimbhoy Ebrahim, son of Sir Currimbhoy Ebrahim founder of the institution and other Mohammedan gentlemen and conducted to the dais when the former in explaining the object of the scheme for the advancement of Moslem education said that he had first suggested certain lines on which the members of that community should work which were modified later on the advice of His Excellency. It was originally intended to found an academical institution for the Mahomedans in Western India for the study of literature and principles of commerce combined with religious instruction which would act as a feeder to the colleges of science, technical institutes and agricultural colleges affiliated to Indian Universities. Since then, however, the educational movement in India had given rise to institutes like the Institute of Science at Bombay and it had come to be felt that model schools as those in England would be extremely desirable. The school, the speaker said, would have its own mosque and be controlled on a definitely religious basis. It was hoped that as a result of a well devised curriculum boys trained in the school would come to look upon the industrial and commercial trader as a goal of their ambitions and not as before depend solely upon Government service with its many disappointments. The object of the school would be to assimilate Western ideas and culture with the instincts, traditions and conservatism of Islam.

Sir George and Lady Clarke were then conducted outside the Samiana where His Excellency performed the ceremony of laying the foundation stone of Sir Currimbhoy Ebrahim School. After doing so H. E. laid the stone and added that he hoped Sir Currimbhoy Ebrahim would live long to see the fruits of his munificent generosity.

He then performed a similar office in the case of Bai Khanumbai Noormahomed Jairaf bhoy Hostel which was situated some thirty or forty yards away. On returning to the dais His Excellency addressed those present.

The ceremony was, he said, significant because it marked a fresh departure in the education of the Mahomedans, It was plainly true that the backwardness of the Mahomedans in taking advantage of the available means of education and in creating others for themselves had retarded their progress relatively to that of other communities. He had no doubt that poverty was one of the causes but education is very cheap in India and there are too many Mahomedan parents who do not provide what they can well afford for their children. He did not think it necessary to point out that education should not merely or principally concern itself with the amassing of wealth, but in the conduct of business of all kinds intellectual capacity is important. The best education was that which developed the character and worked the intellect. This school was starting at a propitious time and if it could only create for its pupils the bracing atmosphere of a good English public school it would develop into an institution beneficial to the Moslem Community. Government would welcome the increase of Mahomedans in the public service but he was glad to know that this would not be the main object placed before the pupils.

In the awakening of India to new activities well-equipped students might always find increasing opportunities of turning their abilities to good account but their success would depend upon real knowledge perfectly assimilated and upon continuous hard work.

In conclusion His Excellency said : "Follow-

ing my gracious and revered Master His Majesty the King Emperor I give to the Mahomedans the watchword of hope that the school which will arise here may turn out in successive generations boys who will serve God and the King as true children of the Empire."

Hon'ble Mr. Montagu's visits.

The Hon'ble Mr. Montagu visited the Government, the D. A. V. and the Forman Christian Colleges Lahore, accompanied by the Rev. Dr. Ewing Vice-Chancellor of Punjab University.

Punjab Engineering School at Rasul

In opening the new Punjab Engineering school at Rasul on 12th November 1912 Sir Louis Dane regretted although Punjab with its canal employed the largest number of Engineers of any province in India, and was crying out for development it had no College for teaching the higher branches of Engineering. The institution opened was meant only to teach the lower branches and His Honour felt ashamed in asking Mr. Montagu who was present to come there as the school was only a humble beginning of what it ought to be and might be one day, The Punjabi as mechanic and artisan was exceedingly capable, but was handicapped in rising in his profession by want of proper mechanical education. The Rasul Engineering School was to remove this difficulty by giving sound practical training and turning out trained sub-overseers, fitters, firemen and mechanics for whom there was considerable demand as the industrial development of the province proceeded.

The Viceroy at the Medical School Indore

His Excellency the Viceroy, accompanied by Colonel J. R. Roberts, visited the King Edward Hospital and Medical School, Indore, on the 9th November at 4-30 P. M. The Hon. Mr. O'Dwyer the Agent to the Governor General in Central India, Mr. Wood, the Resident and many other members of the Council for the Memorial, consisting of the Central India Chiefs and Political officers and agency surgeons were among those present on the occasion. H. E. the Viceroy and the Hon. Mr. O'Dwyer, on alighting from their motor car, were received by Major F. A. Smith, the residency surgeon and the administrative medical officer in Central India, to the entrance of the shamiana erected in front of the school building. Major F. A. Smith, then addressed the Viceroy in a short speech, to which H. E. gave a fitting reply. The three senior members of the staff of the King Edward Hospital and Medical School, Rai Sahib P. R. Bhandarkar, Rai Sahib Sarjo Prasad, and Dr. E. S. Chaskar were then introduced to H. E. the Viceroy, who subsequently inspected the school building and then left among the hearty cheers of the students to visit the hospital buildings situated at a short distance. He alighted at the out-patient department, where the students of the Victoria Memorial Midwives' class were in attendance. Among the buildings visited were certain wards of the hospital, the old operation room, the new operation theatre and the administrative blocks, the last two of which have early reached completion. Then Seth Kastur Chand was introduced to the Viceroy.

Allahabad Christian College.

The fourth re-union of the Allahabad Christian College boys, old and new, was held in the Bethany Jubilee Memorial Hall on the 15th November. At the beginning Dr. Lucas, the president of the Board of Directors expressed great sorrow for the death of the late Dr. Ewing. He said that it had been decided to associate the name of the late Dr. Ewing with the institution for which he did so much. Then the proceedings began with a short prayer by Prof. Higgenbottom who welcomed the old students in an eloquent speech. The professor exhorted the audience to feel the presence of the late Dr. Ewing and asked the old boys to become boys again. He was followed by other speakers who one after another spoke feelingly on the death of the late Dr. Ewing, his influence, etc. Among the speeches, Prof. Mukherji dealt with that aspect of Dr. Ewing's life which brought out his strong moral convictions. He referred to the *nautch* arrangement in connection with the last exhibition and brought home to the minds of all audience the way in which Dr. Ewing threw the weight of his influence against the employment of dancing girls. The proceedings ended with a closing address by Dr. Edwards, on whom the mantle of Dr. Ewing has fallen. Dr. Edwards spoke on the necessity of men who were more

than buildings. He appealed to the audience 'to look forward to those things that are to come.' When the meeting was over all the students old and new together with the members of the staff, were photographed. This was followed by different sorts of games and amusements which continued till the evening. After this there was a social gathering. In this connection, Dr. Ghose's Turkish story and Prof. Janvier's Dhobi song, may be mentioned specially. When the musical entertainment was over, there was a distribution of sweets. And then the function came to a close.

TECHNICAL EDUCATION

Grants to Government Industrial Schools in Madras.

THE Government of Madras have sanctioned the utilization of a sum of Rs. 12,000 out of the Imperial grant of 8 lakhs, allotted for the current year, towards the payment of special grants to the following industrial schools:—St Joseph's Industrial School, Coimbatore; Wesleyan Mission Industrial School, Karur; Chengelvaraya Nayakar's Technical Institute, Madras; Arcot American Mission Industrial School, Arni; St. Joseph's Orphan Industrial School, Tiruvadivanam; Anjuman-i-mufid-iahl-i-Islam, Madras; Art Industrial School, Nazareth; St. Francis Xavier's Industrial School, Tanjore; All Saints Boy's Industrial School Puthur Trichinopoly; Anjuman-i-Isha-Athul-Hasnath, Vellore, H. G. L. M. Industrial School, Nayupet. It is proposed to pay the amounts specified above as free grants to the schools for their better equipment. The Superintendent of Industrial Education has been asked to see that the amounts are drawn by the correspondents of the schools concerned and spent in the purchase of articles approved by him and that the necessary vouchers, for the articles purchased, are submitted to him for scrutiny and check.

C. P. Agricultural College.

THE Central Provinces Agricultural College is doing some good practical work in a modest way, though difficulty of getting students from the agricultural castes remains. The absence of this indispensable class is said to be beginning to have an effect both on the College and on the demonstration class. Special efforts are being made to cure this defect, and one can only hope that they will be successful. Meanwhile instruction proceeds among the youths who attend the classes, and we learn that dairy work among other things has been taken in hand. A recent report says:—"The College dairy has been started, and has certainly had the effect already of showing not only the students, but to some extent the general public also, the standard of cleanliness and efficiency that can be attained in the management of domestic animals and in the production of milk and butter. If it helps to raise a spirit of revolt among respectable Indians against the horrors of the indigenous milk supply, it will have served an excellent purpose." It is too early to say (so the *Pioneer*) whether any wide-spread results will follow, but at least Nagpur should benefit from the College dairy.

Industrial and Technical Education.

The Committee appointed by the Madras Government to consider the question improving industrial and technical education in the north of Madras have submitted their report which is full and informing. They have gone into the subject with interest and thoughtful care and we make no apology whatever for noticing it in our columns. The industrial spirit of the presidency is constantly being stimulated. There is a steady advance in all branches of activity, especially in mechanical engineering which is evident from the increasing number of factories. This has resulted in creating large demands for trained labour and the Committee have done well in having taken up this subject. The man trained in the methods of the country possesses neither the intelligence nor the knowledge of workshops and factory practice.

The demand is for moulders, pattern makers fitters, turners, smiths and general machine men. The Committee have, therefore recommended that provision should be made by managers and directors of factories and workshops for the education of engineering artizans. For this purpose State apprentice scholarships are proposed to be instituted. The Perambur Workshops of the M. & S. M.

Railway have already been opened for the reception of students. A Government grant has been announced,and a curriculum of studies has been drawn up, We have no doubt several other concerns also will follow suit, eventually placing in the field a set of trained workmen bringing intelligence to bear on their work.

EDUCATION ABROAD

Lord Haldane on Civic University

On the occasion of the installation of Lord Haldane as Chancellor of the Bristol University, he delivered an address on universities in general and the modern civic university in particular, which was remarkable both for its liberality of thought and its courageous independence of expression. The fruitful scientific spirit, that is to say the spirit which carries science out into the world and applies it to the needs of mankind, is only capable of the highest cultivation in the atmosphere of a fully developed university; and it is to the newer universities that Lord Haldane looks for the abolition of the barriers that now divide class from class, and for the provision of that equality of opportunity which will enable every scholar to pass on from the secondary school to the university. But Lord Haldane undoubtedly did well in advising these newer and more modern institutions to keep their standard high, and in warning the democracy that public work of the highest quality and kind demanded high intellectual training and acquirements. In its earlier stages (he said) democracy was apt to be unduly jealous, and to show a disposition towards a general levelling down, but he thought that it would be wiser to add a new plank to its platform in an insistence upon equal educational advantage being brought within the reach of youth of all ranks and classes, so that intellectual ability, wherever found, might assert itself and justify its claims.

External Degrees Birmingham

Birmingham university has decided against a general system of external degrees, while prepared to allow attendance at evening classes at the Birmingham Institute to qualify for admission to their examinations. We have not seen the Report of the University on the question, which is said to be weighty and closely reasoned. But it is easy to understand that a young, vigorous, and comparatively small university prefers to use all its influence towards attracting students to its classrooms rather than to its examination halls. Moreover, the existence of one efficient system of examinations for external students renders unnecessary any extention of the idea to other Universities. A proposal in Birmingham Education Committee to reduce the University grant on the ground that the University did not offer sufficient facilities to evening students was defeated by a large majority.

Higher Tech at Manchester

While the Manchester Municipal School of Technology attracts a large number of students for various branches of instruction, its main purpose has always been to provide facilities for advanced technological training. During the session under review 208 students of the Victoria University in the Faculty of Technology, 93 to qualify for the degree of Master and Bachelor of Technical Science, and 115 for the Certificate of Technology. Fifteen postgraduate students were engaged in research work and original invesitigations.

Examination as a test of Efficiency

Speaking the other day at Newcastle, Mr. Pease said that the Board of Education were coming to the conclusion that examinations were not the best test of real efficiency. He did not develop this theme nor explain exactly in what connexion he was thinking of examinations. There are two main aspects in which examinations affect us. In the first place they are a test of the school work, and in this way have a very valuable and stimulating effect upon the pupils and the teachers alike. Certain subjects are taught in a school, either to give information or to supply opportunity for the development of powers. To test these two aims school examinations are undoubtedly useful. The second object of examinations is to afford a means of selecting candidates wishing to enter careers or a further course of study. It is probably this second aim that Mr. Pease had in mind.

The Fitzwilliam Museum, Cambridge.

It is not often that the Fitzwilliam receives so remarkable a legacy as that left to it by the late Mr. C. B. Marlay, of Trinity College, whose bequest includes the lease of his house in Regent's Park and his collection of pictures, engravings, plate, jewellery, bronzes Japanese and European weapons, pottery, porcelain, glass, books, and furniture, and the sum of £80,000 for their housing and upkeep. Many classes of object unrepresented so far in the Museum are comprised in the bequest, and a large extension of the building will be needed. Some pictures have been moved there already and a number more are, meanwhile, in the new Lecture Rooms in Benet Street.

DR. BUTLER, Master of Trinity, spoke at the Commemoration of the 250th anniversary of the granting of the Charter to the Bradford Grammar School. In the course of his speech he said that many conditions, under Providence, were necessary to make a great school efficient. There were at least four bodies who in different ways and degrees were responsible for a school's success—the governors, the masters, the parents, and the children. The great duty of the governors, besides intensely loving the school, seemed to him to be to take enormous pains in making the appointments of a master—by confidential communications, by public advertisement, through every possible channel. When they had done that they would be wise if they let well alone, if they maximized their sympathy and minimized their interference. Speaking of the masters, he would say that their aim should be so to act as to be inspirers rather than correctors, inspirers of a positive kind rather than disciplinarians of a negative kind. If there was one thing he would urge upon them it was never to say anything sarcastic, anything against which the unarmed boy had no defence. A sarcastic master, however able, however just, failed to be a centre of instinctive confidence on the part of the boys. They would not go to him as they would to others. As to the parents, he believed opinion had changed for the better where they were concerned. The more the support of parents could be got—not only negative support, but an active endeavour to push the boy forward along the line of his particular bent—the more a great school was likely to succeed.

Changes at Harrow.

THE changes in the organization of the work at Harrow which the Head Master has announced will give greater prominence to modern studies and greater opportunity for specialization in the highest forms. English, Latin, French, and Mathematics will form the backbone of the curriculum in the lowest forms, the block which is the common foundation of the whole school. Greek is to be postponed; great stress will be laid on English, and every boy will learn drawing. When a new language, Greek or German, is begun, a period a day will be devoted to it. This is a point for which language reformers have long been contending and we welcome its recognition. For mathematics, which will have a very important place in the curriculum, the whole school, classical and modern sides alike, will be broken up and rearranged. Amongst the options which will be permitted at the top of the school, English literature, and even art and music, will be included. These are important changes, and we wish Mr. Ford's experiment every success. Since Thring we have had no great head master with originality and the courage of his opinions. *J. of E.*

Oxford

The number of Freshmen who have joined the University of Oxford this October has gone down slightly from last year—873 as against 922, but the decline is almost entirely accounted for by the fact that this is a year in which no new Rhodes scholars came from the United States. The presence of one of those 873 Freshmen has brought Oxford, and especially Magdalen, into all the illustrated papers. A great effort has been made to allow the Prince of Wales to live like an ordinary commoner surely the wisest plan. Though he has his own tutor and a suite of rooms in Magdalen such as no ordinary undergraduate has, he attends lectures and plays games in the happy state of an ordinary mortal.

WHAT OUR STUDENTS ARE DOING ABROAD

Dewan Bahadur Dr. Hiralal Basu, Professor of Anatomy in the Medical College, Calcutta who proceeded to England in April last to qualify himself for a fellowship in surgery, has been fully successful in his mission. He was touring on the Continent of Europe and visiting various universities and important hospitals on his way back to India. He to arrived at the Howrah Station on the morning of the 25th by the Punjab Mail.

We find the name of the solitary Indian gentleman Mr. Haldoderri Surappa Narayana among the students who have been awarded the Diploma in Forestry by Oxford University after they passed the First and Second Examinations for the Diploma, and have undergone a course of practical training at approved places in England, Germany France Switzerland. Mr. Narayan is a student of St John's College, Oxford.

Mr. D.S. Puttanna, B.A. has passed theFinal L. R. C. P. & S. (Edinburgh), L. F, P & S (Glasgow.) Mr. Puttanna graduated from the Bangalore Central College and underwent the full course of training for the M. B & C. M. Degree in the Madras Medical College, being in receipt of a Mysore Government Scholarship all through his career. In virtue of this training, he was exempted from undergoing the preliminary course of studies in the Royal College of Physicians and Surgeons at Edinburgh and was able to distinguish himself by securing a triple qualification within a remarkably short period of less than two months after his landing in England. He will next proceed to specialise in Public Health and possibly also in Dental Surgery

PROBLEMS IN RURAL EDUCATION *

BY R. K. MUKHERJI M.A.

PROF. OF POLITICAL PHILOSOPHY KRISHNATH COLLEGE BERHAMPUR, BENGAL.

The idea behind the Workingman's Institution is this. It recognises the fact that there are state agencies for education, elementary, secondary and so forth, over the area in which it has jurisdiction. It seeks to fill up the gaps which the existing agencies cannot supply. It has offered education to the lowest classes of our people and endeavours to adapt education to their requirements. The existing educational system is not all adapted to coun ry conditions and only lends itself to that sucking of everything that is best from the country into the town, which has been so disastrous to our agriculture and village crafts. The rural exodus which has now assumed a serious aspect in our economic life is withdrawing the most *valuable* and potential elements, the flower of the agricultural population and rural artisans, from our village life. The exodus to towns is still going on at an alarming rate. The towns offer easy employment to the middle classes and the labourers and ready markets for the products of the village artisans. They offer high material prospects to the ambitious and in general provide for all the mechanical facilities and pleasures of life to satisfy those whose standard of life has suddenly been raised. The landlords pass their lives amid the luxuries of the towns, and lose touch with their tenants. The sturdy cultivators become domestic servants and day labourers and the poorer middle class *bhadralokes* become clerks in mercantile offices and government

* Paper read at the Workingman's Educational Conference held in Calcutta on October 29 1912, presided over by the Hon. Dr. Devaprasad Sarbadhicary M.A. LL.D.

[The Workingman's Institution is one of the many educational organisations for the uplifting of the poorer classes of Bengal. It was opened in Calcutta on the 10th April 1909. Before that year there were started in several parts of the province a few other Schools for the education of the workingmen. At present the Workingman's Institution embraces 11 Schools, with 250 boys and 50 student workers, which have addressed themselves to the task of spreading elementary education in villages as well as in towns. —Ed. Collegian]

establishments. Thus the villages are all deserted and left as wastes and become prey to malaria. Paternal estates, tanks and orchards which have been handed down from generation to generation are left to decay. The cattle gradually deteriorate in quality; milk and dairy produce become gradually scarce, and pisciculture and horticulture become unknown. The movement of the population from the village to the town is not only working a complete revolution in the habits and ideals of our people, but its economic consequences are far more serious than are ordinarily supposed. It has made our middle class helplessly subservient to employment and service and has also killed the independence of our peasant proprietor. It has jeopardised our food-supply, and is fraught with the gravest peril to our national industry and agriculture.

While agriculture has been declining, our village handicrafts have been threatened with imminent extinction in the competition with European manufacturing industries. Mr Collin stated in 1890 that except in wood work, brassware, mat work and common pottery, the Bengal manufactures had been almost entirely superseded by imports from Europe. Indeed brassware seems to be the only industry which has not suffered from competition. This has been corroborated by the different industrial enquiries of the government. Our rural education at the present day has been able to do nothing for our village industrials. This gap our workingman's institution should endeavour to fill up.

We will attempt to adapt our educational system to village conditions and to reconstruct it in relation to our present economic needs. Indeed, a system of education which does not take into special consideration the needs and possibilities of agriculture and craftsmanship as carried on in our village is surely vain and futile. We will attempt to check the decay of our handicrafts by introducing technical education and sound business methods. Most of the things turned out by the village craftsman are made by methods which ought to be obsolete and with defective tools which involve much extra hand-labours. Thus our village brazier sticks to his traditional ways by means of which he makes good single castings, which his rival in Europe with just the same amount of preparatory work turns out twelve. Our brazier cleans his castings by hand; the European puts them in an iron box and makes them clean each other, and finally the European deals with them in clustres on a machine or grinds them to shape with emery or other wheels while our artisan laboriously finishes them singly with a blunt file and a hand burnisher. We will introduce new tools and appliances. We must have proper schools of craftsmanship both in town and village, but more especially in the village, where the craftsman shall receive his necessary training, and acquire mechanical dexterity in order to compete successfully with his rival in Europe. We will hold periodical exhibitions of the workmanship of our craftsmen and hope that the Government and the Municipalities will encourage them and defray their expenses. And we should have our own distributive agencies and thus provide a systematic means to help the craftsman to sell his wares. The market being kept as steady as possibe, we will make it possible for the finer type of craftsman to continue doing his work honestly and skillfully. We will endeavour to guarantee standard, and, insisting upon the craftsman' status through skill and excellence in his work, we will realise the very essence of the finer Socialism of Europe that every man should give to a community the very best that is in him. Nor must we forget the agricultural side of the problem of our craftsmanship. The working craftsman in our village has always another string to his bow in the form of agriculture. He has a few *bighas* of land which he tills at his leisure, his object being sustenance, not sale. To enable the craftsman to reap the full benefit of his labour in the field, we will establish agricultural co-operation.

This brings us to the question of agricultural education which the Workingman's Institution should immediately attempt to solve. Our school will not only have a workshop but also an experimental farm attached to it. We will train not only artisans in

order that they become skilled masters, but also agriculturists in order that they can get out of the land all that it has to give. Education and co-operation have revolutionised agriculture in all the countries in Europe. In the matter of education, Germany with its elaborately graded system of agricultural instruction easily stands ahead of the other countries; but in each case the co-operative movement is associated with serious attention to technical construction, in some cases under state auspices, and in the case of Italy rendered by travelling professors whose duty it is to advise the local organisations on matters of expenditure to hold conferences and to introduce improvements and new methods of organisation. In the matter of co-operation, there are two phases of the remarkable movement (1) co-operative purchase, handling and sale, and (2) Finance. In the continent of Europe, there are thousands of societies of one sorts or another for the purchase of implements, manures, seeds, &c., or the production of agricultural commodities, and finally their sale. The advantages to the individual cultivator from their co-operative purchase are threefold (1) wholesale prices instead of retail (2) better quality of goods (3) lower railway rates. Co-operative sale ensures a stable and permanent market and checks the evils of individual competition which are ruinous in the cases of fresh fruits and vegetables. In the matter of finance, co-operative credit has been a boon to the borrower. In the co-operative credit system, loans are advanced only to responsible and trustworthy persons and for productive purposes and the rate of interest is small, especially where the Raffeisen system of Germany founded on the unlimited liability of its members is adopted. But the general effects of co-operation on the rural life are much more important than its effects on industry. Co-operation tends to check the petty quarrels and bitternesses of Village life, binds together men into friendly relationship and trains the people to work in concert for a common end. Co-operation in Europe is not only recreating agriculture; it is helping to recreate society.

Agricultural co-operation is bound to take firm roots in rural India. In our country the sizes of the farms are small and it is easy to organise them on a common footing. The cultivators here are mostly tenants with secure tenure and can be more easily organised than farmers who move from district to district, having no practical ownership of the lands they till. Already the co-operative movement in our country has achieved important results. But co-operation can only be successful only when it is associated with rural education. On the other hand no amount of money spent on agricultural education and expert advice will do any real good unless we turn our eyes to the co-operative system without which agriculture cannot be restored.

Our workingman's institution will endeavour to be in itself not only a real centre of Education, but a centre of social life. We will combine technical work at the bench, carpentry and the use of metals, classes in farming and farm occupations together with music, singing and popular lectures. There will be village garden, instruction in the rights and duties of the citizen and in physical drill. History and Geography, drawing, designing and industrial arts as well as the language and account keeping will have their due place in our curriculum. Indeed, a comprehensive view of education, within the limitation of our village life, is what we aim at. We will render possible the social education of our people by the formation of reading rooms and village clubs, with special newspapers and pamphlets, by well arranged popular lectures and debates on the various needs of our people, science, hygiene, philanthropy and on the economic and social condition of the community. And our educational work will be strengthened and supported as in the West by the system of co-operation. The moral results of cooperation far outweigh the economic. Cooperation is the School in which our labouring classes will widen their mental horizon and learn to subordinate the interests of the individual to the interests of all. Education will implant high moral faculties, cooperation will transform them into principles of action. Thus will co-operation and education solve the problem

of raising, materially and morally, the great masses of our people, contribute to their real happiness, and propagate culture, in Matthew Arnold's sense of the term, the opportunity for reflection, for physical and mental fulfilment, the chance for individuality.

Already the work of the Institution in the direction indicated above has been fairly good. Most of the Schools that are conducted by the workingman's Institution are in the town; but the few that are situated in villages have addressed themselves to the introduction of reformed education among the moral population. The Teghara Workingman's School which was started in 1876, and is now affiliated to theWorkingman's Institution had been imparting agricultural and technical education to the villagers for many years. The villagers who considered education to be quite useless and beyond their province, (one of the headmen of the village likened it to 'giving grass and water to a dead cow !) have now learned to appreciate its blessings. Again, the efforts of the teachers to import sanitary knowledge and to make the pupils practically helpful in improving the sanitary condition of the villages and ministering to the sick have borne fruit. The teachers as well as other sympathisers live among the villagers from time to time. The sight of a graduate or undergraduate digging the ground with them, mixing in their games, or nursing the sick for days together naturally produce a very salutary effect on many of the boys and the older people of the village. The attempt to introduce technical education in some of the schools in Murshidabad has been education in some of the schools in Murshidabad has been indicated above. Many of the boys who learn carpentry in the evening classes have to work very hard during the whole day in their hereditary professions. They have now acquired sufficient skill in carpentry to enable them to depend on it when they cannot earn good wages in their own profession. For those who have no professions of their own,the schools have been able to offer an independent source of livelihood. In order to make technical work attractive to the boys, the profits accruing to the school from the sale of furniture are distributed among the boys. The adoption of this principle of cooperation encouraging the boys to work hard in order to earn greater wages has proved to be beneficial. Cooperation has linked the interests of the working classes with the prosperity of the school. It has strengthened the school while giving the workingmen the means of becoming independent. Cooperation and education have thus been potent factors here together making forcibly for the material and moral progress of the people.

In a village 16 miles from Berhampore, an experiment has been attempted to associate cooperative work with free education. There are sixteen co-operative credit societies which are very near one another, and in the office of the Cooperative credit societies we have started a free evening school. The labourers and agriculturists assembled in a general meeting and passed a bye-law compelling every member of the credit society to attend the evening school. If any member, due to old age or for cogent reasons, is unable to attend school, he should send his sons or any other adult members of his family to the school. There is also a plot of land on which agricultural experiments are carried on. Thus the advantage and economy of green manuring for many crops is demonstrated. Sugar cane cultivation was unknown in these parts of Murshidabad is now being introduced. The value of salts of Ammonia as manures is shown. Remedies for diseases of plants and crops are suggested and pure seed often distributed among the peasants. Thus the co-operative society with its free evening school and garden for agricultural experiments is now tending to be the intellectual and moral centre of the portion of the district. Education is bearing rich fruit under the fostering care of the sister movement—Cooperation.

There is no other means by which the rural tracts of our country, thrown into the whirl of economic struggles, can resist the economic disruption and gather strength than by uniting all the forces and cultivating all the energies of the people by adopting not merely the form but the spirit of co-operation. Hundreds and thousands of co-opera-

tive societies have to be started in the country. There should be credit societies everywhere which would relieve the chronic indebtedness of our people. Everywhere we want co-operative societies for selling cereals and vegetables in common and preserving mangoes in common, co-operative societies for turning honey, fruit and vegetables to better account, co-operative fisheries, co-operative dairies, co-operative oil and sugar presses and co-operative thrashing and milling (machines) factories, we need grainstorage societies, cooperative societies for improving the breed of cattle or for keeping bulls for common use. Co-operative societies for the purchase of manure, (feeding stuffs) machinery and implements and co-operative jungle clearing, drainage and irrigation societies are not only most desirable but are actually indispensable to restore our agriculture. Amongst our village industrials, we must have co-operation amongst small masters and independent artisans for the joint purchase or hire of fly-shuttle looms, planing benches and various kinds of machinery and perfected appliances which only in this way can be made cheaply accessible to them. There should also be societies for the joint purchase of raw material and for the joint maintenance of warehouses of the sale of their articles. We thus want to see our villages teeming with co-operative societies for handicraftsmen, co-operative silk-rearing, and silk-rearing societies, societies of tailors, carpenters, blacksmiths and so on, recruited from the different castes of which our population is made up. Every cooperative society agricultural or industrial, thus started will become a centre of culture and education, interesting the school masters and educated men of the locality. It will favour further more particularly the work of popular education and technical instruction. It will become in fact the very centre of an educational and economic movement by means of which our moral life will be revolutionised and the lower strata of our Society raised from their present position of misery and stagnation. May cooperation and education in Bengal prove like our two great streams the Ganges and the Brahmaputra, which, rolling along reach perpetually lower and lower strata, and well-directed and well regulated, may they conquer from the ground with irresistible force their own permanent beds.

These are our dreams. Perhaps some day in the near future, some Zemindar who has watched and thought about the economic evil that has driven his tenants to the town, has seen his lands overgrown with weeds, his labourers dispersed or swept away in thousands by malaria and other pestilences mayholdout the hand to the Workingman's Institution and make it possible for us to carry out the dreams we have cherished. It is only the idealism of our Zamindars and the richer people which will zealously push forward these schemes coupled with the steadiness and path of the yonuger generation that will solve the economic and educational problems of our country.

RADHAKAMAL MUKERJEE, M.A.

CREATION.

BY A THEIST.

A theist who has taken the trouble to think out his position and to define it to himself, is necessarily surprised at the ease and facility with which his principles and inferences are at times stated and commented on. The very least that can be expected from a writer who undertakes to demolish a theory is that he should have taken trouble to understand it and to state it as it actually is. I will here state with as much brevity as possible a few of the philosophical principles held by theists concerning the creation of the world which are sometimes misstated.

1. The idea of an infinite being according to the theist does not at all suppose that it is the sum of things; that it includes everything that is. The theist holds that God, the creator, i.e. the efficient cause of the world is self-existent and consequently pure complete actuality. All other beings are finite i.e. limited by the absence of same actuality or

by being only potentially at any given moment what they may at another moment actually be. A child for instance has not the being or actuality of the sun, nor has it the actuality, or being of a man, though it has the potentiality to be a man. Now the self-existent creator who is pure actuality, must possess all perfections which do not connote any imperfection, *formally*, as they are in themselves; and every other perfection in a manner superior to the manner in which they exist outside of him; he must possess them *eminently*. God is *formally* powerful, wise; he is *formally* infinite, eternal. But we cannot say that is extended like a body i.e., has dimensions, although by his omnipresence he possesses extension *eminently*. Nor can we say that God is courageous, for courage connotes the condition of having to face danger, whereas a being which can be threatened with danger necessarily must be finite in its perfection, but the infinitely perfect God cannot be threatened with danger. God's omnipotence includes courage *eminently*.

By the infinite God we mean, that God the self-existent Creator possesses all perfections, everything that it is better to have than not to have, without limitation or dependence either formally according to their own proper nature, or eminently not according to their own proper nature, but in a superior manner including the power to realise them in their own proper nature.

2. God is infinite in every perfection, and because he is infinitely powerful, he must be able to cause to exist with any degree of perfection he pleases, any finite thing which he wishes to exist. Finite things must be external to and different from God; if they were in any way complements or completions of him, he would not be infinite, or he would be the infinite plus the finite which is absurd.

3. To create means to make out of nothing. If 'to make out of nothing' be taken childishly, in the sense that nothing is the material cause of the world, then, of course to create is an absurdity, for out of nothing, nothing can be made. But if 'to make out of nothing' be taken as the theist takes it, and as Huxley defined it, 'to cause to exist when nothing existed previously', then to create, or to make the world out of nothing, i.e. when nothing of the world previously existed, is an act properly characteristic of infinite power. To make a thing out of a material cause is the act of finite power, for the power is limited by the need of some thing to work upon.

4. There cannot be more than one infinite being. But given an infinite being, these may be as many finite things as he wishes to be. If, in order to retain the infinitude of God, we made him to be both the efficient and the material cause of finite things we should frustrate our own purpose. We should limit his infinite efficient power and make it dependent on himself as a finite material cause. The infinite would be at once finite and infinite which is absurd. On the contrary God must be the infinite efficient cause of all things finite. To deny him the power of effecting by one act of creation both the material and the formal cause of finite things, would be to suppose that his infinite power is only greater in degree than the finite power of other agents which require a material cause to act on.

The act of creation which causes a thing to be of which nothing, not even a material cause, existed before, is the characteristic act of infinite power; the characteristic of finite power is that it depends on an already existing material cause in order to act.

5. No one who has taken the trouble to determine the meaning of the words Time and Eternity can see any cause of objection to the creation of the world in the question, 'When did God create the world.' The answer is God created the world and the first instant of its existence was the first point of time. God created the world as many years or centuries ago as there are years or centuries from this point of time back to the instant when the world began to be. Time is in the created thing; there is no time in God; God is eternal. *Eternity is the simultaneous full and perfect possession of life that has neither beginning nor end.* God is: there is no *was* or *will be* in God. The question 'when did God act,' is an idle question, if it implies past time in God. God acts eternally, not in time. Finite beings on the contrary act in time, for they possess existence in succeeding moments they were, they are, they will be; they never enjoy simultaneous full and perfect possession of existence.

6. The difficulty as to God existing before the world was and now that the world is, is all in the imagination, or in the error which

supposes eternity to be time stretched backwards and forwards without beginning and without end. The eternal and the temporal are things different in kind, not merely different in degree. The eternal can be known and understood, but cannot be imagined; we have an idea, a concept of it, not an image or phantasm in the imagination. The temporal can be imagined. We know how we posses our existence; by now's and now's and now's. The past is gone; the future is not yet; the present will in a moment have ceased. But in God there is no succession; he is one eternal *now* consequently to try to imagine God before the world was, or to suppose a before and after in God is to imagine the combination of time and eternity. But eternity is an attribute of the infinite; time sa relation in the finite; they cannot co-exist in the infinite being.

7. The infinite being, as we said above, must possess all perfections that do not in any way imply limitation, v. g., knowledge, intelligence, omnipotence, etc., *formally*, that is as they are in themselves according to their own proper nature. He cannot, however, possess such perfections as imply limitation or as exist only in limited beings; reason, for instance, which though a perfection in man is less perfect than intelligence or courage which connotes the condition of having to meet danger, in the same way as he possesses pure perfections, *i. e.*, formally. He must, however, possess them in a manner superior to the manner in which they exist in finite beings, for there is nothing in the effect which is not in some manner in the cause, and he is creator of finite things. The theist holds that God possesses these mixed perfections eminently, *i. e.*, without the limitation or imperfection which they imply. The infinite intelligence of God includes reason eminently, and his omnipotence includes courage eminently.

Since, then, God possesses all perfections *i.e.*, since he is self-sufficing he cannot feel any need of anything; his purposes, therefore, in creating the world cannot have been to supply any kind of need in himself. Why then did he create this world? He created the world because he willed that there should be intelligent beings capable of knowing and acknowledging his exalted excellence; his will that these should be such creatures is his only reason. God is not more happy for having created us.

The manifestation of his excellence is the quasi-final cause of the creation; quasi-final, because God is in no way compelled by it to create. The theist, however, finds in the goodness of God the *motive* for which God should will the creation for this end—not indeed in his goodness considered *transcendentally*, *i. e.*, in his infinite perfections which makes him infinitely lovable and desirable, nor in his goodness considered *morally i. e.* in his infinite sanctity,—but in his goodness considered relatively, *i. e.*, in his loving will to make others happy. In this relative sense, *goodness* is also called *bounty* or *beneficence*. Bounty or the will to make others happy, is in itself a pure perfection, and God must therefore, be infinitely bountiful. But because he alone is infinite and everything other than himself must be finite, the manifestations of effects of his bounty in finite beings must be finite. The theist, therefore, gives a complete account of the creation;—God as omnipotent efficiency con-creates the formal and material cause of all finite things, his purpose or quasi-final cause is the manifestation of his excellence, and his motive is his bounty or infinite goodness in the relative sense just explained.

8. The creation of the world supplied no need in God; nor did it effect any change in him. The change effected by the creation is all intrinsic in the creature. If a person stands on my right-hand side and then passes to my left, he has changed, I have not changed, similarly, the world did not exist, now it exists; the change is in the world not in God. The theist expresses this intrinsic relation of the creature to God, which relation is purely extrinsic to God, by calling God the creator,

Besides, the act of will by which God created the world is not past in him, nor does it imply any change in him. The act is past for us who measure actions by time, it is ever present in the plenitude of God's eternity. Such objection, therefore, as that by creating the world God must have removed a need in his nature, sor that God with the world be superior to God without the world, prove ignorance of the theistic conception of the infinitude of God and of eternity and time.

9. The objection to the creation of the world by God, because of its imperfections is no better grounded. The world is most certainly imperfect, whatever degree of per-

fection it has is limited in many directions. Those who hold that the infinitely perfect God is both the efficient and the material cause of the world should, to be consistent with themselves, hold that the world is absolutely, infinitely perfect, Those who with the theist hold that the world in its entirety and everything in it separately, are distinct from God, also hold that the world is imperfect in itself, but that it must be considered relatively perfect, i.e. perfect enough to secure the end, God intended in creating it. The world is perfect enough to give intelligent beings that amount (and no more of the knowledge of God and of the happiness of knowing him, which God intended them to have. When God created the world he created it with its limitations.

10. But had not God power to suppress at least moral evil, to suppress Satan, for instance ? Most certainly he had ; he is infinite. He might have supressed the possibility of moral evil in this world or created it in such a way that moral evil could not exist in it. But he also could and did create this world as it is. Having given to some beings, to pure spirits and to the souls of men an immortal nature and having given them freedom to fix their attention and desires on himself for whom they are made or on creatures that were made for their use, and to help them to recognize his infinite excellence, God does not contradict himself and destroy what he created to be for ever, or arrest the exercise of the power of choice which he himself concreated in these immortal natures. If a pure spirit, Satan for instance, or any other being endowed with freedom to choose, chooses to rebel, God is only consequent with himself in leaving him in the condition in which he chooses to be.

11. But might not God have been merciful ? Mercy is not due to any one ; and yet the theist holds that God is the plenitude of mercy, But the exercise of God's mercy depends not on a change in the attitude of God towards the offender, God is immutable, but in the attitude of the offender towards God. The offender must cease to offend ; he must repent and resume his attitude of dependence and submission to his creator ; he must recognise the infinite excellence of God and seek his joy in God, not in anything other than God. When the offender does so, when he changes himself, then God is, as we say, merciful towards him. But God has not changed. God is infinite, almighty, eternal, and unchangeable ; the creature is changeable, because he is finite, weak, and fixed down to the limitations of time.

12. To all this we need only add that no theory of evolution as yet excogitated, has affected the theists belief in creation. Evolution is at most an account of the *process* by which things may have developed from one stage of perfection to another ; it has nothing to say to the *origin* of things, unless it ceases to be evolution and becomes cosmology.

A THEIST.

THE PEDAGOGY OF THE HINDUS—IV.

BY PROF. B. K. SARKAR, M. A.
CALCUTTA.

(*Continued from page* 103)

But man cannot conceive the infinite and the mysterious at the outset, cannot understand the ultimate truths at the very commencement of his career, cannot appreciate the subtle philosophy of life in his initial stages. There is a limit to each and all of his powers and faculties, and this makes his perception of the world weak, feeble and incomplete. His efforts at unfolding the mystery of the universe are necessarily tentative, halting, experimental. He has to approach the goal through failures and incomplete visions. He has always to be satisfied with half-truths, partial lights and concrete realities in order that he may in some distant future get a full vision of the subtle, the mysterious, the abstract, and the whole. In spiritual as in other matters the tragedy of man is that he has to ascend step by step, to climb stage by stage, that his pathway heavenward is slow, gradual and dilatory. The infiniteward progress of the soul, the god-ward movement of man is achieved and completed through landmarks and degrees.

The student of plants cannot at once master the principles regulating the growth and deve-

lopment of living organisms. So also the student of chemistry does not at the very start get the laws of chemical combination governing the structure of the bodies in the physical universe. So also it is not given to the human child, the pupil, to understand and appreciate the highest truths of the universe, to conceive and realise the Infinite in the very elementary classes—the very first stages of his educational life. He has to advance like a blind or a lame man limping and progressing bit by bit through diverse paths.

The pre-condition of spiritual progress and therefore the very foundation of religious education must be the control of the body, mastery over the senses and training of the physical basis' of life. The physique must be so framed and regulated and 'broken,' so to speak, as not to militate against the craving of the soul for higher flights, for infinite progress and ultimate self-realisation, but to help man in "working out the beast." The physical powers must therefore be developed not in the interest of the brute in man,—not to display the animal qualities,but in such a way as to restrain and curb the 'ape and tiger' by the god-in-man. The theory of 'harmonious development' of all faculties has therefore to be understood and interpreted in a sense consistent with the heaven-ward evolution of human instincts ; and harmony of life has to be understood not in the sense of equality of all its aspects but of order, proportion and symmetry of an organism in which the various members are arranged in relations of due subordination and interdependence. Therefore so far as the physical frame work is concerned, it is to be so governed by rules of austerity, sternness and moderation that patience, endurance, peace and forbearance may come into existence as habitual or natural virtues of life. The senses have not to be killed and crushed but require to be so trained and educated by being steadied, pacified and moderated that the desire for the Infinite, and craving for self-denial, delight in super-sensual and transcendental phenomena and the pleasures of the soul may have favourable environments in the material and secular life of the society. In the second place, along with this education of the body by processes of self-control the mind and will have also to be trained in such a way that thoughts of others' welfare and ability to do good to mankind may be something like a 'second nature' to the pupil. And for these active virtues of life he has to submit to various disciplinary measures that may easily and habitually open up his head and heart to the miseries and griefs of the needy and arm his hands with power to be useful to the community. By undertakiug various works of self-denial and social service he will be able to do away with vanity and self-love and acquire humility, the first step in spiritual life. It is only when after long and daily practice of these twofold rules of *Brahmacharya*, the life of man has been thoroughly purged and tempered that he can arrive at a position for appreciating the deep and subtle philosophy of existence, understanding the transcendental realities of the universe, and living in perpetual presence of the eternal spirit.

Besides this natural process of *ascent* from the finite to the Infinite, through the material to the super-material, the pedagogist in providing for real spiritual culture has to reckon the various *stages* of the individual pupil's growth and development and the varieties and differences between pupil and pupil so far a infinite-ward movement and heaven-ward progress of the soul are concerned. Every human child has his own spiritual history, his own natural and acquired instincts, and therefore has to solve problems of his spiritual existence in his own way. Diagnosis and treatment must vary with varying conditions, and therefore there can be no *uniform*, royal road to the realisation of the highest self. The highest interests of man have to be furthered along lines suited to the spiritual plane of every individual's life and thought. The educationist must also ever remember the psychological fact that the building up of an individual's character cannot be successfully accomplished by committees or councils. The ideal that the pupil is to cherish, the thoughts that are to be his life-blood, the convictions that are to mould his life's work, and the principles that should regulate his conduct cannot be imparted to him through official decrees or collective efforts. The life or soul of an image, the vital principle of a work of art, the 'design,' 'plan' and other essential elements of a drama cannot come through many hands. It is the patience, preseverance, devotion and *Sādhana* of an individual that can impart life and purpose to artistic performan-

ces and cast them into a definite and distinct mould. So also it is the life-long labour and conviction of an individual, be it harmful or beneficial, that can impress upon a man a distinctive ideal and fix his type of character differentiating him from other men.

It would have been evident from the foregoing discussion that study of theological books is not an integral part of real spiritual education. It is also clear that no uniform codes of religious training can be formulated, no centralised rules and regulations can be prescribed in such a way as to suit the requirements of *all* learners. It is also suggested that no Board of Governors, or Faculty of Specialists, no Council of teachers or Committee of management, no administrative machinery, can make adequate provisions for the needs of the spirit and the furtherance of the interests of the soul. The long and short of all is—that no official methods, no 'school'-system, can effect the work that is contemplated. Real religious training, therefore, cannot be imparted in schools and universities as generally understood,

The ordinary schools of India are modelled on the pattern of the 'Day Schools' of the west, and the new type of residential schools that is coming into vogue is an imitation of the 'Boarding Schools' of Europe and America. There are argumeuts both for and against each system of educational institutions in the countries of their origin. But whatever might be said about each on general grounds, one point is clear that neither of these systems is competent to offer spiritual education to its scholars. The residential system may, no doubt, add to the opportunities for social intercourse between the teacher and the taught, but as discussed above, social life is not necessarily spiritual life. Besides the promiscuous intermixtures and social gatherings cannot at all supply those opportunities for personal contact and the growth of a keen sense of *personal* responsibility that alone can minister to the *varying* spiritual wants of men.

SECTION 7.

THE DOMESTIC SYSTEM OF EDUCATION

For the proper training of the spiritual sense and the growth and development of religious instincts the whole routine of the child's work must have to be entrusted to the care and responsibility of a single individual—the *Guru*. Responsibility must not be divided—the pupil must know for certain whom to look up to for guidance and advice, and the preceptor must know for certain how many disciples will live and move under him. This of course, does not imply the extreme theory 'one teacher, one pupil.' But the principle is that the pupil should imbibe his ideals and convictions and acquire his aim of life from the inspiration and influence of *one* individual though certainly he may receive *intellectual* culture and training in the several branches of learning from specialists nominated by that individual.

It is this system alone that can pay due heed to the various spiritual and moral planes of life ; for under these conditions alone the whole mental and physical life of the pupil may be constantly before the mind's eye of the preceptor. And this is a thing that can be very poorly done by the printed Progress-Reports issued by Recorders and Deans. Here again is that spiritual contact, that communion from soul to soul and meeting of heart to heart. that relationship of reverence and affection, that joy of human associations which is the necessary pre-condition for the growth of personal responsibility and mutual appre iation. It is under these circumstances of life and work that the pupil's aptitudes and tendencies can be tested through habits of service, devotion and self-sacrifice, that his capacities may be developed as menial, clerk, nurse, scholar, organiser, educationist, philanthropist, and what not, and that his ideals can be moulded, mission can be determined, and campaign of work fixed in a manner than which nothing can be more psychological more rational, more scientific. Here, there-for can be supplied those educational forces, here only can be created that environment and atmosphere which are adjusted to the inner cravings of the soul and can evoke the real spirit of self-control and renunciation.

Responsibility of one individual for the building up of men's character—this is the principle that should underli all educational activities especially those that profess to impart religious instruction. I venture to call the pedagogic system based on this patriarchal principle the *Domestic System of Education*, the system of training through life and work under the direct influence of a single preceptor.

Those of our countrymen, therefore, who are anxious to impart religious education to our boys and girls must either thoroughly depart from the beaten track and totally abolish the existing system, or give up altogether the idea of teaching religion. The conversion of Examining Universites into Teaching ones would certainly change the character and type of the educational institutions, and is likely to raise the standard of intellectual culture and improve the methods of teaching and examination, but is not at all calculated to foster and develop the desire for Self-secrifice and culture of the soul. The introduction of the residential system, again, would, no doubt, develop the public spirit and social aptitudes of the scholars, but would certainly not be competent to help them or make them any the wiser so far as their ideal or mission of life is concerned.

The uncouth scheme of education that has been suggested in these pages is sure to fall flat on the enlightened community during the days of the making of new Universities, and can meet with nothing but a contemptuous smile in response. For when the whole civilised world is madly pursuing the ideals of *Factory System* of Education and is making huge attempts at 'production on a large scale' in the field of education as in industry and commerce, it is but natural that the ideal of college education and the household system of training would be brushed aside as primitive, inefficient and unsuited to the requirements of a complex civilisation. For to all modern minds the questions that naturally arise are: Granted that under such a system the adequate atmosphere for rearing up good, honest, manly and God-fearing people is provided for: But how much of intellectual culture can be imparted thereby? How many pupils can be treated in this way? Can the whole community's wants be supplied through such home-institutions? How far are the preceptors' homes calculated to minister to the commercial and industrial needs of the country? Is not this system likely to jeopardise the economic interest of the nation and drag it behind in the struggle for existence? Will not this domestic system, again, be the cause of interminable differences, disunions and varieties? Who will fix the standards of education and who will equalise them? What will be the test of the qualifications acquired under the *Guru*? How will the society judge of the merits of the *Brahmachāris* as they pass into the householder's stage?"

B. K. SARKAR.

Reviews
And Minor Notices

THE FUNDAMENTALS OF PSYCHOLOGY BY BENJAMIN DUMVILLE, M.A., LONDON, F.C.P., published by The University Tutorial Press Ld., London. Pages viii+382. Prices 4*s.* 6*d.*

The book is meant for the use of teachers and contains within a very short compass an admirably lucid and athoroughly exhaustive account of the nature and development of mental processes which bear upon the education of the child. The author does not only appear to be an advocate of the modern Inductive method of teaching but also himself stands as a fine example of this method in presenting his own subject. He has so successfully worked up to the rule on which he has laid special stress: *Proceed from the concrete to the abstract*, that the technicalities of the science have been rendered extremely easy of comprehension. Almost all the illustrations, so far as we could see, have been taken from what really occurs, or is likely to occur, in the School-room. The questions appended to each chapter have been carefully framed with a view to test the knowledge guided by the reader of the principles discussed therein as well as to require a practical application of these principles to new problems. We can therefore, safely recommend the book to any one who takes some interest in the Educational problems of the present day.

HOME UNIVERSITY LIBRARY—The 6TH TEN VOLUMES of this useful series published by Messrs. Williams and Norgate have been just received. The volumes are as usual very interesting and each volume is complete and independent. The price of each volume is 1*s.* net in cloth and 2*s.* 6*d.* in leather (gilt). No College or School Library should be

without this series. The following are the subjects in the ten volumes : —

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SCIENCE NOTES
AND OTHER INTERESTING MATTERS

Steel-cutting by Oxygen.

Probably many of us have burnt iron wire in a jar of oxygen. We began with gas cylinders; became wiser, and used jam or pickle jars carpeted with blotting paper and a layer of water. More recently we have taken to playing on a glowing bundle of wire with a jet of compressed gas from the oxygen cylinder. At the conclusion of the fireworks we exhibit the iron oxide, and perhaps refer to meteorites and the sparks from rails on which a train is being braked to a sudden standstill. But the spherulitic residue, the production of which is one of the objects of the teacher's demonstration, has been a hindrance to the engineer who wants to "cut" steel by burning a narrow gap through the metal. Of late years the process has been so developed that twelve-inch hardened steel armour plate can be cut as if it were butter. The neighbouring metal is heated by an oxy-acetylene jet; then a separate high-pressure jet of oxygen does the cutting," and blows away the oxide as it is formed. Quite recently the apparatus has been made portable by the substitution of petrol for acetylene. The cut is as smooth and as narrow as if performed with a saw.

Mr. Carrel's Discovery.

Mr. Alexis Carrel, of the Rockefeller Institute, New York, who has just been awarded the Nobel Prize for Medicine, "for his researches into the sutures of vessels and the transplantation of organs," is a doctor of French nationality, whose scientific career has been almost entirely passed in the United States. From time to time exaggerated reports of his discoveries – in many cases preposterously exaggerated—have been made current by the Yellow Press. It has often been said that M. Carrel had succeeded in substituting young fresh organs for others that were old and worn out. It was even said that he had succeeded in replacing a human heart whose action was weak by the heart of an animal. All these announcements are, of course, the purest canards. M. Carrel's work is wonderful enough without these incredibly foolish exaggerations.

M. Carrel's principal researches have been in the direction of systematically examining the vitality possessed by tissues when detached from the organism. He has definitely discovered the conditions most suitable for their independent growth, and has by supplying necessary media succeeded in making these detached tissues not only remain alive, but multiply. The chief surgical result of M. Carrel's experiments has been the attempt to replace diseased or torn arteries by sound ones; and some bold operations by the eminent Italian surgeon Mantelli have shown that there is a real possibility of developing this method of surgery. As for the transplantation of complete organs, more reserve is necessary. This "grafting" is never sure of success save in the case of portions of the same organism—"auto transplantation. The transference of organs between two is rarely successful and is almost an impossibility—"homo transplanta tion" ; while "hetero transplantation (of organs between two organisms of different species) is never successful. Thus—in spite of the countless rumours referred to above—it is now generally admitted that only on the lines of "auto transplantation" is there an assured future for M. Carrel's researches into surgical method. His achievements in this direction alone are sufficient to more than justify the Nobel award of 1912.

ng the Gobi

EXTENSIVE tracts of land in Siberia are threatened by the encroachment of the great Gobi desert, and a plan has now been drawn up for a series of forest ramparts to hold back the salt sanddrift. The only effective defence according to the report of agronomists sent to survey the region is in tree belts at least two miles broad. It is proposed to plant one of those from Samara to the Caspian Sea, whileother are recommended extending in intervals of about forty miles right up to the Chinese frontier.

Barocyclonometer

The dreaded hurricanes of the West Indies are about to become a more important factor in nautical affairs than they have ever been before, in view of the diversion of trade routes to the Caribbean Sea which is to follow the opening of the Panama Canal. The attention of the U. S. A. Government has been directed to the necessity of a renewed study of these disturbances and the means of protecting vessels from them. The Navy Department have adopted for use on the North Atlantic a sevice called the barocyclonometer, which has proved of great value to mariners in the Far East in determining the proximity of typhoons.

This instrument (Barocyclonometer) was invented by the Rev. Jose Algue, S.J., Director of the Philippine Weather Bureau, in 1897. It may be regarded as the outgrowth of several earlier and relatively crude devices for enabliug mariners to locate the direction of a neighbouring hurricane from local observations, viz., Piddington's horncard, Reid's storm-card, Lloyd's typhodeictor or storm-pointer, Viscovich's cyclonograph, Vines's cyclonoscope, etc. All of these devices depend upon the fact that the winds arouud a tropical cyclone have a definite relation to the position and movement of the centre, and hence to the state of the barometer.

The barocyclonometer is a signal improvement over its predecessors because it takes account of the fact that the normal barometric pressure—a marked departure from which gives token of a neighbouring hurricane—is not the same for ail parts of the ocean or for all seasons. It consists of two principal parts, which represents the form of the device now used in the waters of the Philippines and the China Seas. The barometer proper occupies the center of the dial, and is graduated in both metric and English units. Surrounding this is a flat ring of silvered brass which is movable around the barometer dial. The first step in the use of the instrument is to set this ring in accordance with the indications printed on its lower half. For each zone of latitude and for each season there is a definite pressure above which the conditions may be regarded as normal, i.e,, if the pressure is above this limit, at the place and time in question, the mariner can be certain that no cyclone exists within a radius of 500 miles. The ring is turned until a red arrow, shown to the left of the segment marked "Variable" points to the reading of the barometer dial corresponding to this normal pressure. If, when the instrument is thus adjusted, then the index of the barometer points to a reading to the left of the red arrow, the vessel must lie within a cyclonic area. The segment of the ring marked "typhoon" will then embrace all readings likely to occur within

the cyclone. The latter is divided into four concentric zones, A, B, C, and D, at various distances from the center of the storm. Having ascertained from the barometer the proximity of a storm, it is of the utmost importance to know in what direction the storm center lies from the ship and the direction in which it is travelling. This is determined by the use of the cyclonometers, shown to the right. The glass face of the cyclonometer is immovable. It is marked at its circumference with the points of the compass and with eight diametrical lines engraved on the glass. Beneath the glass cover is a metal disk which can be revolved by a knob at the center. An arrow passing through the center of this disk (only the point can be seen in the picture, close to the knob) represents the direction of the storm's movement. The other little arrows engraved on the disk show the direction of the winds around the center, as determined by innumerable observations of such storms. These winds have a general righ-to-left rotation around the storm, and are also inclined more or less toward the center. The concentric circles seen on the disk mark the limits of the four zones of the storm, A. B. C. and D.

The two long needles privoted at the central knob and movable about it are called the "graduated needle" and the "double needle." The former has the inner two thirds of one of its halves graduated from 0 to 100; the latter has a smaller needle pivoted at two thirds the distance between the center and one end. Either of the large needles may be used to obtain a first approximation of the direction of the stormacenter. Having ascertained from the barometer in which zone the ship lies the disk of the cyclonometer is turned so that the central arrow points in the usual direction of a cyclone's path for the place and season in question; the needle is then set so that one end points to the outer end of the wind arrow most nearly corresponding to the direction of the wind prevailing at the ship, and lying in the appropriate zone. The other end of the arrow will then indicate the cardinal point corresponding to the direction of the storm center from the ship. The use of the second needle involves a somewhat complicated operation, of which space forbids the description here. It is fully explained in Algue's work on "The Cyclones of the Far East."

Sporting.

Cricket Tournament, 1912.

LANSDOWNE SHIELD. TIES

1st Round.

(To be played December 31st.)

A. Bishop's College vs. Medical College.
B. Presidency College vs. Medical College.
Rest drew byes.

SEMI-FINALS.

(To be played by January 25th.)

X. Winners of A. vs. Winners of B.
Y. Metropolitan Institute vs. Scottish Churches' College.

FINAL.

(To be played by January 31st.)

Winners of X. vs. Winners of Y.

SENIOR HARRISON SHIELD.

1st Round.

(To be played by January 15th.)

A. La Martinere vs. Shibpore.
B. Deveton vs. Presidency.
C. Medical (Civil) vs. Medical (Military.)
D. Metropolitan vs. Scottish Churches.

SEMI-FINALS.

X. Winners of A. vs. Winners of D.
Y. Winners of B. vs. Winners of C.

FINAL.

(By January 28th.)

Winners of X. vs. Winners of Y.

JUNIOR HARRISON SHIELD.

(By January 28th.)

(A) Armenian vs. Doveton.
(B) Free Schools vs La Martinere.

FINAL.

(By February 7th.)

Winners of A vs. Winners of B

CUTTINGS

THE MUSEUM, THE SCHOOL, AND NATURE-STUDY TEACHING.

The following is the abstract of a paper read before the Educational Science Section of the British Association by Mr. A. R. Horwood :—

Museum officials have at last realised the necessity of studying the needs of the visitors to the collections under their charge. The search for knowledge through the impetus given by free education has made museums, along with similar institutions centres for research. Hence the museum must have its ideal, and a definite plan for carrying it out has to be evolved. Into this scheme educational types of exhibits must necessarily come. The public has to be divided into classes and exhibits must be suited to each. Hence the material, since it is specialised, is much more valuable than any other former methods could devise. One section, the students section, is increasingly useful, and therefore requires special development.

Moreover, it is obvious that the museum is merely part of a general scheme of education that each child in its educational progress may—or should—make use of, in the same way as an art or technical school, free library, and so on. Hitherto, however, this fact has been lost sight of, and it is to emphasise the importance and to demonstrate the practical value of the museum in the education of the young that this summary is devoted. A parallel feature of modern education has been the rise of Nature-study. Evolved from the old object lessons, it has now emerged as an experimental subject into the clear light of advanced methods. It is in fact a method, teaching observation, inculcating logic and reasoning power—and no age was more in need of this—instilling a desire to learn in the young mind, and communicating enthusiasm.

This being so, it is a subject to encourage. The value of Nature-study lies in its association with things, and the necessity of handling them. But it is the museum, above all, which deals primarily with concrete examples, where a man can illustrate ideas by specimens, which he may even touch. Indeed, for the student a museum is the only place in the district where—in Natural Science at any rate—a knowledge of types of different things can be seen and studied. Hence its importance for use by schools.

Within the last ten years museums have been much visited by schools. But it is unfortunate that the true inter-connection between the two has been ignored, and the museum has not been used to advantage. There has been no co-operation. Teachers have used museums in their way without inquiry. Recently, however, realising the necessity of ensuring the effective use of Leicester Museum, lectures have been delivered to the elementary school teachers upon the material in the museum, and upon the general principles of scientific subjects, with considerable success. The extension of this system is advocated.

AN OBJECTIVE STANDARD IN EDUCATION.

Professor John Adams, of the University of London, the President of the Educational Science Section of the British Association considered in his address the possibility of establishing and objective standard of evaluating educational results, such a standard being necessary to make good the claim of education to rank as a science.

He made no claim that education had yet justified her demand to be recognized as a fully developed science; but might be fairly maintained that she had least entered upon the stage of scientific method; she was seeking to free herself from mere empiricism. In such a course of action. The first thing required is some ingenuity. The other method was by dealing with observed results so as to reach the underlying principles. Obviously that at once introduced the experimental method, since no satisfactory progress could be made by mere passive observation. This was the stage now reached in educational theory. They were passing from an appeal to experience to an appeal to experiment. The first step in raising a study to the scientific level was the establishment of a standard in the evaluating of results. In the study of education in the past—and it must be admitted that the same was true to a large extent at the present—the standard adopted was in cases a subjective one. There was a tendency to have everything determined by individual

opinion. They had need of some standard that was independent of private opinion.

PSYCHOLOGY AND EDUCATION.

The difficulty was very great. In education the subject-matter was numan hature, which was so complex and involved such volatile elements that is was almost impossible to reduce its working to fixed laws. The same difficulty obviously applied in psychology. Itself a comparatively new subject, psychology had great difficulty in getting recognition as a science. For this there were two main reasons. To begin with, psychology began life as a branch of philosophy, and scientific men regarded with suspicion anything that came from that quarter. The second reason was that which interested them—the difficulty of establishing an objective standard. The line of resistance in seeking for an objective standard in psychology was to fall back upon a physiological basis.

Just as psychology utilized physiology in its effort to gain a standing as a science, so education was inclined to use psychology. Frequently psychology was described as a science, while education was relegated to a place among the arts. It was natural, therefore, for the educator who wished to claim rank in science to appropriate the scientific status of his auxiliary science. As a matter of fact education had captured psychology. This was only one of many cases in which a profession had taken possession of an abstract study and in this way enabled the abstract study to make real progress. It was greatly to the advantage of psychology that it had become an essential part of the professional training of teachers. The subject was now receiving an amount of attention that it would never have had but to the support of its connexion with the profession of teaching. But after all a teacher was not a mere psychologist, education was more than applied psychology. If education was to rank as a science it could not be in virtue of its use of another study that itself had an insecure toothold amona the sciences. It must establish for itself an objective standard.

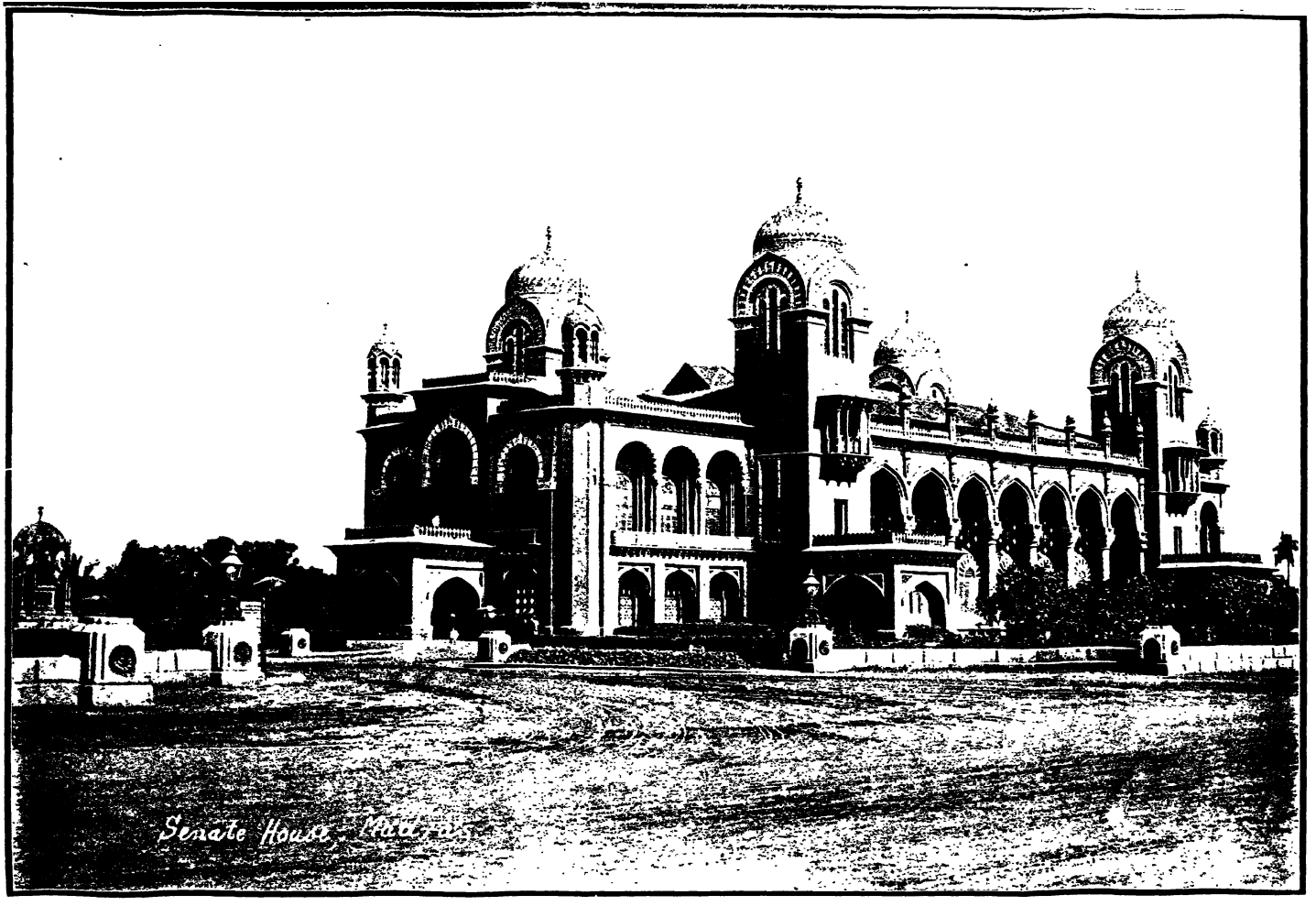
Nothing better illusrated the groping of educatiou after a scientific basis than the present demand for some means of determining which children were "defective" and which merely dull. So impirative was the need for an objective standard here that it must be satisfied at any price, with the result that the decision was being more and more left to the doctors instead of to the teacters. The cause was not difficult to find. Physiology had already an objective standard, and the doctors were evidently expected to get their results by physical examination. No other explanation was admissble, since they were not not superior to teachers in this knowledge of the mentel feactions of the child but obvously inferior. If the doctors could supply edcation with an objective standard, education should be very grateful, but need not addicate in favour of medicine. Education might use the results of both psycholoy and physiology without in any way surrendering its ciaims to be an indpenndant science.

INVESTIGATION AND EXPERIMENT.

The hope of the evolution of education as a science lay in the proper manipulation of the method of experiment. At the present stage of advancement there was quite a respectable colleclion of recognized facts in connexion with teaching and education, and these were in process of organization. They would soon have such a volume of well-arrangement for recognition as a science. But, while organisation was imperatively needed and must go on, there was an equally urgent need for new knowledge. There could be no more useful subject of inquiry suggested than an investigation into the question that were most urgently demanding answers at this time among the practical educators of the country.

To discover and classify these. and then to correlate them with the various investigations that were being made throughout the world, would be to render a very practical service to the study of education. Education ranked with a group of studies that dealt with humanity in its various aspects. Psychology naturally was the science that underlay them all, since it was the abstract study of human nature which was their raw material. But politics, economics, sociology, and eugenics all claimed to be sciences. and if they probed into their standards they found that they were largely statistical. It was quite possible by careful investigation among the subject-matter of those sciences to organize a system of general principles based upon averages obtained from a very wide field of investigation.

(*To be continued*).



MADRAS UNIVERSITY SENATE HOUSE.

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VOL. III. **The Collegian** NO. 5

AND PROGRESS OF INDIA.

CALCUTTA, SATURDAY, DECEMBER 14, 1912.

Elementary Education in the United Provinces

THE question of elementary education has now been seriously taken up by the Educational authorities of the United Provinces. The Hon'ble Mr. C. F. de la Fosse, the Director of Public Instruction, has addressed a circular letter to the Divisional Inspectors of Schools in the Province, asking them to arrange the preliminaries necessary for a complete survey of the requirements in regard to the campaign against illiteracy that is soon to be vigorously undertaken. A careful perusal of the letter, as our contemporary the *Leader* very rightly points out, will not fail to gratify the best friends of education, which is only another name for friends of Indian Progress. We hope to revert to the subject and to deal with the letter in full in a subsequent issue.

* * *

Inductive Method in the teaching of Physical Sciences

THE following extracts are taken from '*A course of modern intellectual culture* (adapted to the requirements of Bengal) by Prof. B. K. Sarkar M.A. author of *the Science of Education and Inductive Method of Teaching Series* :—

Elementary 1st and 2nd years. Pupil's age : 7 and 8 years—

"Comprehensive Science Reader—Object lessons calculated to direct the student's attention to facts and objects of the physical external world. Use of tapes, chains, watches &c. to indicate amount of space, time &c. Names of plants, animals, minerals to be learnt from pictures, charts, maps, gardens, museums, art-galleries, magic lanterns &c. Comparative weight and temparature of objects. Comparison of distances and heights by eye. Paper cutting, and preparation of models in card board, clay moulding; handling of toys and raw materials used in carpentry, smithy, weaving, agriculture, dying, gardening, house building &c."

The course of Botany is thus graduated :—

"Elementary third and fourth years (pupil's

age 9 and 10 years).—Uses of 24 Bengal plants —Their importance and utility to man's economic life. Each plant to be studied as a source of national wealth. The medical, industrial, domestic and other services, rendered by each."

"Elementary fifth year (Pupils age 11 years), Life history of 24 Bengal Plants studied up to date,—Growth, habit, habitats, cultivation, disease and food of each plant."

"Preparatory first and second years (pupil's age 12 and 13 years). Study of 24 Bengal Plants—Rice, Pea, Mango, Arum, Jack fruit, Neem, Red pepper, Lemon, Datum, Vata, Guava, Supari, &c. How to identify. Morphology—External and internal characteristics of each. In treating the successive plants the student is to get an idea of the resemblances and differences in parts between the several plants and thus an insight into the varieties or natural orders."

"Preparatory third year—School final leading to University (Pupil's age 14 years)—Classification, Generalisation, Laws"

This is how Professor Sarkar carries the pupil stage by stage from a first hand study of concrete facts and phenomena of the vegetable world to the abstract generalisations that may be deduced out of them as to their origin, classes, &c.

The same method is applied to the study of animals. And the following are the stages through which the student is led for mastering Chemistry up to the University Entrance Standard :

"Elementary third and fourth years—Study of minerals—their uses, distribution &c."

"Elementary fifth year.—(*a*) Chemical processes and operations described—solution, filtration &c. (*b*) Study of minerals—their uses, distribution &c. continued."

"Preparatory first and second years—Chemical study of minerals. Each mineral to be subjected to various experiments. The course is meant to give the students an idea that the minerals of the world may be analysed into various substances and when treated with other substances may be changed into altogether new objects."

"Preparatory third year—Laws and Generalisations."

Thus to start with, the pupil is introduced to the geography, economics, geology, of the minerals that he comes across everyday and has his interest created in the world about him. And when chemistry proper begins, he is presented not with the gases and acids—the atoms and molecules—things that are to be prepared, found out or proved, but is asked to undertake experiments on the familiar objects of the world, and observe the changes they undergo and the processes of change. It is only when manifold experiments have been undertaken that a rough generalisation is presented to him—properties of acids, gases, atoms &c,, and he gets an insight into the manifestations of chemical energy.

* * *

Sir George Clarke on teaching

AT a meeting held in Bombay on the 28th November, 1912 under the auspices of the Bombay Teachers' Association the Bishop of Bombay delivered an address on the personality of a teacher. In the absence of His Excellency the Governor, who was to have presided the Hon'ble Mr. C. H. A. Hill, Executive Member in charge of Education read a speech sent by His Excellency. After dealing with the influence on character of teachers His Excellency said that the old Gurus of India might have had limited equipment measured by the modern standards, but they won and held the affectionate reverence of the pupils. They were able to mould character and produced fine scholars. His Excellency concluded by saying :—"We have to take what was best in their methods and apply to the exigencies of our day."

* * *

The Vernaculars and the Madras University

WE are glad to note that the Rev. A. F. Gardiner in his Address to the Convocation of the Madras University, which has been reproduced in full else where in this issue, has struck the right note when he impressed upon the graduates of the year the necessity for giving a stimulus to the vernaculars. We have in these columns always urged the need for the study of the vernaculars and their place in higher education. We are very glad to see that Mr. Gardiner is also of the same opinion. If the principles of western civilization and the discoveries of western thought and science which are universal not merely local, said Mr. Gardiner, are to permeate this land it will not be through English or Sanskrit or Arabic. Yes, it will be through the vernaculars which must be developed and cultivated so as to meet the needs of the hour. As he very rightly says, the enlistment of the vernaculars is an indispensable element in the national enlightenment. Instruction of the masses must be through the vernaculars. We are glad to find a movement in support of the study of the vernaculars in the Madras Presidency. As a result, we find that enlightenment is advancing. The Madras University is trying to encourage the study of the vernaculars. The thousands of books in the vernacular, on various subjects, from politics to fiction, that are turned out annually by the printing presses indicate that we have no reason to despair. Only the movement should be carried along right lines.

The Social Service League, Bombay Course of University Extention lectures

THE Bombay Social Service League is doing excellent work on the spread of mass Education, They have issued a circular letter requesting specialists in different subjects to deliver a course of 6 lectures on their special subjects. We hope the movement will find favour with the Professors and Educationists.

* * *

Dr. Hermann Oldenburg

DR. HERMANN OLDENBURG, Professor at the University of Berlin, Editor of the "Vinaya Pitakam" and the "Dipavamsa" in Pali, and the well known author of the "Life of Buddha," is just now in Lahore on a short visit. Dr. Oldenburg is one of the first Orientialists and Sanskritists of the present day and has a world wide reputation.

* * *

Memorial Scholarships in Sindh

CERTAINLY Moslem Education will receive a great stimulus by the announcement of the Commissioner in Sindh that H. H. Sir Imam Baksh Khan Talpur, G. C. I. E., has with the object of perpetuating the memory of his late Imperial Majesty King Edward VII, and of encouraging higher education among the Mussalman Community of Sindh, placed in his hands the munificent endowment of Rs. 75,000 for the purpose of providing scholarships to be known as "King Edward Memorial Scholarships," tenable at the Sindh Madrassa-ul-Islam and at approved colleges. The scholarships are open to all Mohammadans born or domiciled in Sindh. The fund will be administered entirely by the Commissioner in Sindh.

* * *

Ayurvedic College in Ceylon

A college for the study of native medical science is shortly to be established in Ceylon, and already over Rs. 115,000 has been collected for the purpose.

* * *

Public Instruction in Patiala State

THE report of the Director of Public Instruction in Patiala State for 1911-12 is, on the whole, one of steady progress. The number of schools has increased by 35, mainly new primary schools: the number of male pupils from 9,317 to 11,187, and of female pupils from 1,217 to 1,579. The increase was more than 20 per cent. in the case of boys and 30 per cent. in the case of girls.

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Annual Meeting at the Science Association Calcutta

THE annual general meeting of the Association was held on the 28th ultimo, at 5-30 p. m. There was a large and representative gathering of members and sympathisers. Sir Gooroo Das Banerjee, Vice-President of the Association, took the chair. The Chairman in opening the proceedings announced that His Excellency Lord Carmichael had been pleased to become the Patron of the Association. The announcement was received with loud cheers. The Chairman further announced that the vacancy in the Presidentship of the Association had been filled up by the election of Raja Peary Mohan Mookerjee, C. S. I., M. A., B. L., Senior Vice-President of the Association. Sir Gooroo Das Banerjee next vacated the chair and the Hony. Secretary Dr. Amrita Lal Sircar, F. C. S. (Lond.), read the Annual Report of the Association which was a record of steady and unostentatious work. It appeared from the Report that during last year the Association had done excellent work for the teaching of Science to University students, the provision of facilities for advanced research work and the popularisation of science among students by medals and prizes. Its financial condition was quite satisfactory and there was an increase to its reserve fund. After the adoption of the Report and the election of office-bearers and members of the Committee of Management, Mr. C. V. Raman, M. A., read a paper on "Maintenance of Vibration" which was a result of original investigations, carried on within the Association. The paper will be included in the series of bulletins published by the Association. The previous bulletins on the same subjects giving a record of Mr. Raman's original researches have already been published and attracted favourable notice of learned bodies of the West. Dr. D. N. Mullick also read another technical paper which was very highly appreciated. The Hony. Secretary in thanking Prof. Mullick and Mr. Raman said that they had been the means of heightening the reputation of the Association and of the Indian mind for advanced research work in Europe and America. The leading scientific bodies in the West had already been pleased to include the Association in their exchange list. They were making new discoveries in the realm of nature but the credit of discovering them and enlisting their sustained labours in the work of the Association belonged to him. The President having briefly addressed the meeting, the proceedings terminated.

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The Late Raja Benoy Krishna

WE deeply regret to record the death of Raja Benoy Krishna Deb Bahadur of Savabazar, Calcutta which event occurred unexpectedly on Sunday afternoon the 1st December, 1912. While in his teens he established a Literary Society in his house. He founded a charitable institution also. In connection with the literary Society there was a debating club in which many distinguished students and other eminent men of letters took

part. In consultation with M. Leotard the Raja founded another Literary Society known as the Bangya Sahitya Parisad which proved most useful to the country and which included almost all the leading literary men of the Province. All these institutions had their local habitation at the Raja's residence. On the removal of the Bangya Sahitya Parisad to its own house, the Raja founded another Literary Society in his house known as the Sahitya Sabha.

Anniversary of the Central Hindu College Benares.

THE Fourteenth Anniversary celebrations of the Central Hindu College commenced on the morning of the 7th December 1912. The most important feature of the first day's proceedings was the second sitting of the Central Hindu College Parliament at which a Bill for the prevention and regulation of mendicancy in India was moved; in the afternoon Mrs. Besant was "at home" to the trustees, old boys and visitors. The second day's proceedings of the Central Hindu College Anniversary commenced with some Sanskrit lectures in the morning. The anniversary meeting and prize distribution were held in the afternoon. The Maharaja of Benares presided. The Maharaja in the course of a speech remarked that Mrs. Besant established this college in order to benefit Hindus at large and to leaven the purely material education of the present day with some of the high ideals of Hindu religion and ethics. Education is barren without ethics and ethics has no standing without religion. This college is the outcome of the disinterested exertion of a pious Lady, Mrs. Besant, to whom the Hindu public ought to ever remain indebted for this boon. Students have already made a mark and proved their loyalty to the College. The interests of the College ought to be more zealously guarded as it is going to be the nucleus of the Hindu University. Religious education had been carried on in admirable lines.

His Highness expressed sincere thanks to the teachers and Professors for their noble example of the self-sacrifice and devotion to duty, which was without a parallel. Addressing the students the Maharaja remarked:—Try to emulate the noble examples set before you and try to be loyal and true which will make you the prized citizens of the world. Be loyal to your own self, your College, your Government and your King.

Mr. Arundale, the retiring Principal of the College, in a short speech laid stress on the ideals of reverence, brotherhood and unity, kept before the College.

Mrs Besant in an eloquent speech traced the growth of the College from its very beginning 14 years ago, when she with four or five other Hindus of Benares had placed before the Maharaja of Benares her scheme for a Hindu College where religious education might be taught. His Highness gave the land on which the College stands at present. Again it was the Maharaja himself who had promised land on which the Hindu University was going to be built. Since the establishment of the Hindu College religious education had spread far and wide in Kashmere, Mussourie, Rajputana and Hyderabad. This was the last anniversary of the Central Hindu College and she hoped that the Hindu University might carry on the traditions of the College and show the breadth of view, earnestness for religious education, self-sacrifice, loyalty and good behaviour, the same as in the College at present. In conclusion she remarked that during the last year not one punishment had been inflicted in that institution. There had been no cruelty no wrongdoing that deserved punishment. This, she said, was due to discipline being maintained by love and not on fear.

THE UNIVERSITIES.

CALCUTTA UNIVERSITY.

Meeting of the Senate, 30th November 1912.

A meeting of the Senate was held at the Senate House, College Square, on Saturday afternoon the 30th November. The Hon. Sir Ashutosh Mookerjee, Vice-Chancellor, presided and there was a fair attendance of fellows.

Carmichael Chair of Indian History and Hardinge Chair of Higher Mathematics.

The Vice-Chancellor, in opening the proceedings, said that they would recollect that on the 25th May last he laid before them a full statement of the progress which had been made up to that time regarding the establishment of some research chairs. On the 24th February they accepted the recommendation of the Syndicate that the Government of India be asked to apply for funds for the establishment of two Professorships, one to be called the Ancient Indian History and Antiquity Professorship, and the other the Hardinge Professorship of Mathematics. These proposals were submitted to the Government of India and they replied that they were prepared to find money for two Chairs, but that, as they contemplated the proposal of establishing an Oriental Institute at Delhi, they were not prepared to find money for the chair of Ancient History of India. The Syndicate, thereupon, re-

solved to establish a fund formed out of the proceeds of the Sanskrit Branch for the foundation of the chair of Indian History. They further resolved that of the two other professorships, one should be for mathematics and the other for mental and moral philosophy. The Government of Bengal was subsequently approached, and His Excellency the Governor strongly supported the proposal for the foundation of the chair of Indian History. His Excellency stated that, in his opinion, the establishment of the Oriental Institute at Delhi would not meet the needs of the Calcutta University. Quite recently the Government of Bengal had sent a reply sanctioning the establishment of a Chair of Mathematics to be named after Lord Hardinge, and of the Chair of Mental and Moral Philosophy to be called after His Majesty. In the meanwhile the Syndicate had taken steps for the appointment of suitable persons for those Chairs, and they recommended the appointment of Professor R. M. Frechet to the Hardinge Chair of Higher Mathematics. So far as the Chair of Indian History was concerned, the difficulty was very great. The first qualification for that post was knowledge in Sanskrit, and the Syndicate recommended that Dr. Thibaut be appointed for the post. In this connection the Vice-Chancellor wrote a letter to His Excellency the Governor asking permission to associate his name with this Chair. The Syndicate also recommended that the University Chair of Indian History be named the Carmichael Chair.

The Vice-Chancellor then moved that the following recommendations of the Syndicate be confirmed :—

(*a*) That the University Chair of Indian History be named the Carmichael Chair of Ancient Indian History and Civilization.

(*b*) That Dr. G. Thibaut, PH.D., D.SC., C.I.E., be appointed to the Carmichael Chair.

(*c*) That the appointment be for a term of seven years and that the salary be Rs. 12,000 per annum.

(*a*) That Professor R. M. Frechet be appointed to the Hardinge Chair of Higher Mathematics.

(*b*) That the appointment be for a period of three years, and that the salary be Rs. 12,000 a year, plus Rs. 3,000 as House Allowance.

Babu Golap Chandra Shastry seconded and Mr. J. R. Banerjee supported the motion, which was carried.

The Vice Chancellor then moved that the following recommendations of the Syndicate be confirmed :—

University Readers

(*a*) That Dr. A. R. Forsyth be appointed Reader to the University for 1912-13 and that the subject of his lectures be "The theory of functions of two complex variables."

(*b*) That Prof. H. Oldenberg be appointed Reader to the University for 1912-13 and that the subject of his lectures be "The method of Western Scholarship in the field of Ancient Indian Research."

The recommendations were confirmed.

Mr. T. Palit's Munificent gifts

The Vice-Chancellor then said that in the month of July last he announced to them that Mr. Palit had made a gift of Rs. 7,00,000 in cash and landed property to the University. That gift was intended to enable the University to find Professorship's of Physics and Chemistry, and to establish a College of Science. That magnificent gift was accepted by them with thanks. Since then the Government of India had sanctioned a grant of Rs. 12,000 a year for the maintenance of the College of Science. Mr. Palit had executed a further trust-deed, by which the University, subject to the life-interest of Mr. Palit, would come in possession of property worth Rs. 7,50,000. The second gift included his residential house, but if it was urgently required Mr. Palit was prepared to vacate it at once. It was a magnificent opportunity for them to establish the College of Science. The Vice-Chancellor had already appealed to Lord Hardinge in furtherance of that great scheme, and, although he was not in a position now to make any further announcement, he hoped that the Government of India would support them. In the meanwhile it was their bounden duty to express their feelings of gratitude to Mr. Palit and their high appreciation of the munificent gift which would materially help to further the cause of the education of Science. He had already stated on the last occasion that, although they had had princely gifts from men like Messrs. Prem Chand Rai Chand and Prosonno Kumar Tagore, yet by one single gift Mr. Palit had placed himself absolutely in the forefront of all the benefactors of the University. In this connection they should remember that Mr. Palit had got a family and children, and for this reason he commended greater respect and admiration from them. The speaker then asked them to confirm the following recommendations of the Syndicate :—

(1). That the Syndicate record their feeling of gratitude towards Mr. Palit and their high appreciation of his munificent gift which will materially help to further the cause of scientific education within the jurisdiction of this University.

(2). That the princely gift of Mr. Palit be reported to the Senate with a recommendation that a deputa-

tion of the Senate do wait on Mr. Palit to express their sense of gratitude towards him.

(3). That steps be taken to have a life size portrait of Mr. Palit in oil to be placed in the Senate Hall.

(4) That steps be also taken to provide a marble-statue of Mr. Palit to be placed in front of the proposed College of Science.

It was then resolved that the affiliation of the Tejnarayan Jubilee College, Bhagalpore, be extended to the B. A. Honours standard in English from the commencement of the ensuing session and that the Government of India be moved to sanction the affiliation of the Loreto House, Calcutta, to the I. A. Standard in English, Mathematics, History, Botany, and French to the L. T. Standard, with effect from the commencement of the next session. It is announced that on the recommendation of the Syndicate and the Senate the Government of India are pleased, under Section 22, read with section 21, sub-section (4), of the Indian Universities Act (No. VIII of 1904), to direct that with effect from the commencement of the current session, the Presidency College, Calcutta, shall be affiliated to the University in Pali to the B. A. Honours standard.

Affiliations.

Courses.

The Arabic course both pass and hon. for 1913 (B.A.) has been prescribed also for the B.A. Exam, of 1914.

Universities of Calcutta and Oxford.

The following extracts from the Oxford University Statutes on Colonial and Indian Universities (Statt. Titt. II. Sect. VIII) are published for general information :—

(*b*) Any member of an Indian University so admitted, who shall have passed the Examination at that University for the Degree of Bachelor of Arts or Bachelor of Science, may be admitted to the Status and privileges of an Indian junior student.

7. The status and privileges of a junior student shall be as follows :—

(*a*) The term in which he is matriculated shall be reckoned, for the purposes of any provisions respecting the standing of members of the University, as the fifth Term from his matriculation

(*b*) A junior student shall not be required to pass Responsions, or to pass in an Additional Subject at Responsions

(*c*) A junior student, who has passed the Second Public Examination and has obtained honours either in the First or in the Second Public Examination, shall be entitled to supplicate for the degree of Bachelor of Arts so soon as he shall have kept statutable residence for eight terms, Provided that, if he is a Colonial student, he has shown a sufficient knowledge of the Greek language, and has satisfied the moderators in holy scripture or in a book offered instead thereof.

(*d*) A junior student, who has passed the first and the second Public Examinations, but has not obtained honours either in the first or in the second Public Examination, shall be entitled to supplicate for the degree of Bachelor of Arts so soon as he shall have kept statutable residence for twelve terms, Provided that, if he is a Colonial student, he has shown a sufficient knowledge of the Greek language.

That any member of the University of Calcutta, who shall have passed the Examination at that University for the degree of Bachelor of Arts, and shall have been placed in the first Division in two or more subjects of that Examination, shall be deemed to have taken Honours as required by the provisions of Statt. Titt. II, Sect. VIII, cf. 3.

MADRAS UNIVERSITY.

Fellows

The following newly-elected ordinary fellows were assigned to the faculties as under :—

Faculty of Arts M. R. Ry. K. V. Rangaswamy Aiyangar Avl., M.A., M. R. Ry., G. A. Natesan Avl., B.A.,

Facul. of medicine M. R. Ry. P. S. Chandrasekharam Avl., B.A., M.D., Major A. Miller, M.B. I.M.S.

Member of Syndicate

For the election of a member of Senate to serve on the Syndicate in the place of Mr. E. W. Middlemast, M. A. who vacated his seat on the 15th November 1912, the same gentleman has been nominated for re-election, and as no other nominations have been made it is hereby declared under Regulation 93 that Mr. E. W. Middlemast has been duly elected a Member of the Syndicate. The election shall take effect from the date of publication of this notification.

The Annual Convocation, November 21, 1912.

The annual Convocation for the purpose of conferring degrees was held on Thursday evening in the Senate House, at 4 P. M. In addition to a very large number of candidates who had assembled in their academic robes to receive the degrees there was a good gathering of Europeans and Indians, including a number of ladies.

The Chancellor, the Vice-Chancellor and the Follows assembled in the old Senate room.

When all the graces had been passed a procession was formed, headed by the Registrar, who was followed by the fellows, the Members of the Syndicate, and the Presidents of Faculties and the Vice-Chancellor with the Chancellor at the rear.

The Chancellor announced the purpose for which the meeting had been called. The questions proper to such an occasion were then put to the students and were answered in due form.

The candidates for degrees were then presented in the following order :—

1, M. L., presented by Mr. C. P. Ramaswami Aiyar.

169, B. L., presented by Messrs. C. P. Ramaswami Aiyar, C. Krishnan and the Hon'ble Dr. Bourne.

120, L. T. presented by Messrs. H. S. Duncan and M. Hunter.

7, M. B. & C. M., presented by Lieut-Col. G. G. Giffard, I.M.S.

5, B. E., presented by Mr. W. H. James.

29, M. A., presented by Rev. G. P. Pittendrigh, Messrs. E. W. Middlemast, W. J. Prendergest and J. P. Cotelingham.

788, B. A., presented by the Revd. G. Pittendrigh, C. Ghezzi, E. M. Macphail, Allan F. Gardiner, Dewan Bahadur S. Venkataramadas Nayudu, Rao Sahib T. Ramkrishna Pillai, and Messrs. J. G. Tait, W. J. Prendergast, E. W. Middlemast, M. Hunter, J. P. Cotelingham, and K. B. Ramanathan.

2 B. E., 2 L. T., 2 L. M. & S., 1 M. A. and 10 B. A., degrees were presented in absentia by Mr. J. P. Cotelingham.

After all the candidates had been presented, the Registrar laid the record of the degrees that had been conferred before the Chancellor who thereupon signed the same.

The Revd. Mr. A. Gardiner then delivered the interesting and thought-provoking address which is reproduced below. The address was listened to in wrapt attention and punctuated with loud cheers.

The Chancellor then dissolved the Convocation.

THE CONVOCATION ADDRESS

at the Madras University Convocation

BY REV. A. F. GARDINER

Mr. Chancellor, Ladies and Gentlemen. —

As I rise to address this Convocation in compliance with the request of the late Chancellor and in accordance with the regulations of the University, my thoughts revert to the last occasion on which the time honoured custom was observed. There stood before us then one whom we shall hear no more, though being dead he yet speaketh. His interesting survey of University education past and present, his keen appreciation of the reforms but recently introduced into the University system of this Empire, his sensitive consciousness of existing limitations, are all still fresh in our memory, and his words of congratulation and counsel to the graduates of the year will never be forgotten by those who heard them. The Hon'ble Mr. V. Krishnaswami Aiyar was a man whom the King delighted to honour: a graduate, a fellow, and a Syndic, of whom this University was justly proud. Unerring insight and unfailing sympathy characterized every action of his life, and his public career was distinguished throughout by a rare single-mindedness of purpose inspired by a large-hearted patriotism. It is a difficult and responsible task for me to follow in the steps of so clear a thinker and so brilliant an orator, and to succeed all the other speakers of wide experience and impressive eloquence who have addressed this Convocation year by year. But I have the secret encouragement of knowing that my enthusiasm for the cause of higher education in India at least is as boundless as theirs, and my affection for this land and Empire as deep as that of any of my predecessors in this honourable office. In the sphere of University Education in this country one outstanding feature arrests the attention of every interested observer. It is the transition of the University from the formal position of a purely examining body to the dignity of an institution which not only tests but teaches, and devotes herself to training not only the intellect but also the character of her sons and daughters. Such a responsibility was recognised and accepted by the University of Madras at an early period of her existence, and recent administrative measures have served only to facilitate and quicken her discharge of it. So invaluable are the benefits accrue from such reform that new schemes for the promotion of Universities in India can only hope to gain acceptance in so far as these principles are strictly observed. The development has been marked in the first place by the gradual transformation of a number of loosely affiliated institutions into a compact group of constituent Colleges which the University has assumed a position of responsibility and control by dictating measures for their more effective organisation and conduct, and by instituting a system of periodical inspection. As the Head of not the least distinguished of those Houses, I may be permitted to express the gratitude felt by all towards the great statesman who inaugurated that policy and towards those upon whom the duty of giving effect to it has devolved,

Late Mr. Krishnaswami Iyer

The Residential System

In pursuance of the policy indicated in the Indian Universities' Act of 1904 the hostel system has been brought into prominence, and an approximation has been made to the residential system of the older Universities of the West. The advantages of wider social intercourse and of a more vivid realization of corporate life among students have for centuries past found expression elsewhere in hospices and halls. Six hundred and fifty years ago the need of such hostels for University students was realised and supplied at Oxford by Walter of Merton who laid down regulations for their discipline under a warden, subwardens, and monitors and also made proper provision for such healthy recreations as "lusus pilæ in loco causa exercendi corporis et sanitatis." His noble example of private beneficence if followed in this Presidency and in the adjoining states would confer as great honour upon the benevolent founders as on the favoured Colleges. It is in the development and extension of this hostel system on a sound basis that a solution will be found for one of the gravest and most pressing problems of modern education. While the University as a body has thus assumed a still larger measure of responsibility for the education imparted in her affiliated colleges and thereby constituted herself vicariously a teaching institution, the gracious influence of H. M. King Emperor and the generosity of the Imperial Government have opened out new paths of enterprise.

In Europe in the Middle Ages teaching Universities and hostels preceded the formation of such teaching Colleges as were founded after the model created at Oxford by William of Wykeham in the fourteenth century, and the local guild of professors in the stadium had long preceded the organization of the universities. In modern university the function of preparing candidates for University degrees has devolved upon University Colleges, and the University in her individual capacity has assumed a peculiar function from that of a University College. In the latter the acquisition of knowledge, however highly specialized it may be, is but one factor in the more liberal education of its scholars, while the University considered apart for her College cares less for the wider culture of the individual and more for his independent research and the assured results of his investigation. To fulfil this special duty the University aims at guiding the studies of advanced students by the operation rather than by the instruction of her own professors and by providing facilities for such research.

Endowments and grants

In the West and elsewhere in India, generous endowment by religious and other institutions or the liberal support of public spirited individuals has enabled Universities to discharge this distinctive function, but hitherto in this Presidency we have been precluded from doing so by a lack of general interest and of adequate funds. The Imperial grant has now provided this University with materials for erecting monuments of research, and the University, in availing herself gladly of the opportunity, has proposed to appropriate the grant for the building and equipment of a library and for the establishment of University professorships.

Advancement of Vernaculars

This recognition of the special aim of the University, in conjunction with the better fulfilment of her wider purpose through University Colleges vindicates the traditional claim of Universities to be perhaps the most important factors in national progress, and cannot but evoke a liberal response from every section of the community. In harmony with His Imperial Majesty's express desire to conserve the ancient learning of this land, the claims of the languages and literatures of South India, native and naturalized, have received the foremost consideration by the University of Madras. The claims of other departments of research in closer touch with the professional and industrial life of the community have been temporarily waived in defence to the prior claims of pure learning, but will assuredly be honoured worthily as time and circumstances permit. The preference thus given to Oriental languages is an inevitable corollary of Lord Macaulay's famous Minute of 1835, in which it was decided once and for all that the English language should be the medium for higher education in India. The only language seriously considered as possible alternatives at that time were Sanskrit and Arabic, the classical languages flourishing in the land. The latter was rejected because it was as foreign as English and less effective, while the claims of the former were disputed on the ground that it had been dead for two thousands years, during which a large proportion of its literature had been written - a literature great indeed in matter, form, and spirit, but deficient in certain departments and greater in any literature of England.

The case for the Languages

Though there never was (or has been) any intention on the part of the British Government that English should be generally substituted for the vernaculars, and even if such a policy were remotely practicable —yet the competition of the vernaculars was hardly taken into account in deciding upon the means of higher education. But their claim on the further attention of Indian Universities has always been great and cannot be ignored.

"Language is the sole channel through which we communicate our knowledge and discoveries to others, and through which the knowledge and discoveries of others are communicated to us."

If the principles of Western civilization and the discoveries of Western thought and science (which are of universal, not mere local, validity) are to permeate this land, it will not be through English, or Sanskrit, or Arabic. The enlistment of the vernaculars is an indispensable element in national enlightenment. For while on the one hand the function of English is to unite in one enlightened body those who participate directly in the learning of the West, on the other hand national assimilation of that more accurate information and wider culture can be effected only by calling in the aid of the vernacular. At present there appears to be a danger that the English language which is a bond of union among the favoured few may become a barrier of separation between them and their less fortunate countrymen.

A glorious heritage

The fascination of European culture and education exerts so strong an influence due partly to worthy, partly to unworthy motives that there is a clear disinclination on the part of University students to select courses of study in their own languages, though it would be difficult to determine how far the education of an Indian could be considered in any sense complete without an adequate acquaintance with one or other of the languages and literatures which have sprung up in his native land or have become acclimatized to it. To the influence of these literatures is largely due all that is good and beautiful in Indian life and the preservation of such influence and of its sources should accompany the infusion of the elevating and inspiring elements of Western culture. Otherwise there would appear to be a real danger that by their education the sons and daughters of India may forfeit the most precious portion of their glorious heritage. The History of University education in India during the past half-century is a record of rapid advancement along every line of national thought, and the Universities may claim to be the most fruitful source of inspiration for intellectual, social, and ethical progress but at present it cannot be denied that the English educated class have to a large extent failed to adjust their enlightenment to the needs of their fellow countrymen. As an evidence of such failure there is a striking absence of individual effort, of originality, of stimulating thought and imagination, on the one hand, and on the other among those not so educated a widespread suspicion and distrust of all rational reforms based upon the knowledge that is imparted through English education.

Exhortation to graduates

Gradutes of the year, it is my duty to-day to exhort you to conduct yourselves suitably unto the position to which by the degrees conferred upon you have attained. I congratulate you on having for the most part acquired a useful knowledge for the vernacular language of South India, for the diffusion of knowledge through their vernaculars is one of the foremost duties of graduates. There is an imperative need of translating and accommodating that knowledge to meet the needs of the masses, and unless this task of interpretation is undertaken the moment of inspiration may be irretrievably lost. There is much in the old vernacular literature that exerts a reactionary influence and withholds the benefits of the new learning and culture from the country at large. The time is ripe for the renaissance of those vernaculars as living forces with a renewed vigour and wider range. While the system education through the vernacular is already considerable and is increasing with the rapid extension of Elementary Education, the present supply of sound modern literature and of instructive lectures in the vernacular is scanty and soon exhausted. And yet the vernacular seems destined to remain the spoken and written language of the large part of the educated community. The literates in English in this Presidency do not number 1 in every 150 of the population, and for every literate in English there are 40 literates in the vernaculars. The vital importance of female education and the almost incalculable influence of the women of India in Indian life have frequently been emphasized, but only 3000 Hindu and Mohammadan women and 9000 Christian Indians, out of a total population of over 41 millions, can read and write in English. The very imperfect knowledge of most of these literates in English further discounts their number, already insignificant in itself. There is yet another influential section of the community to be considered in the application of such a test for "the wealth as yet hardly appreciates the value of a University education" to their children. Every graduate of the University becomes, directly or indirectly, deliberately or involuntarily, a teacher of the people, and the extension and improvement of English education will serve only to alternate the interest of the masses and to accentuate their prejudices unless it appeals to their hearts and minds in a form that can be readily understood and appreciated. The vernaculars are in a malleable and plastic state capable of receiving the impress of new ideas, and the natural demand for their modification and enrichment is insistent.

Mr. Chancellor, Ladies and Gentlemen.—

Felicitation and Advice

If I seem to have digressed from the express subject of the Convocation address it is on account of my firm conviction of the paramount importance of the position which the vernaculars should hold in the scheme of higher education for the average student. It is my very pleasant task to congratulate you, graduates of the year, on the distinctions which you have won. If my words of hearty congratulation and kindly admonition should strike some of you as trite and common place, I ask you to believe that they are none the less sincere, and I invite you further to accept their very familiarity as a proof of the unalterable affection and unchanging interest which the University ever takes in the highest welfare of her children.

To you, Ladies and Gentlemen who have graduated to-day, this is a memorable occasion, for graduation in any department of learning comes but once in a student's life time. It is an impressive ceremony, in impressive moment in your lives, and in your case at least the solemnity of your present experience will, I venture to trust, invest my faltering words with a peculiar freshness. I stand before you at this moment when you are flushed with triumph, not to stimulate the pride of knowledge but to instil the humility of wisdom. The education which you have received, the courses which you have completed at the cost of great self-denial on your own part and perhaps of still great self-denial on the part of your parents and relations, are to-day crowned with a success which is hard-earned and well deserved.

At the Parting of the Ways

This academic year marks the passing of the old courses of study and the advent of the new. But as the last representatives of the old order you have nothing to regret. Turn your eyes on the long roll of men of ability and distinction, living or dead, whose path to honour and fame was the same as that now trodden by you. If the coming age require men trained under a more highly specialized system, yet in this age of transition, as indeed in every age, men and women of wide culture, broad sympathies, and noble character, will never find a field for the exercise of all their talents. With such examples behind you and round you, and with such a hope before you, I can, and do, most cordially congratulate you on the position which you hold. You stand at the parting of the Ways of life to choose a career for which your education hitherto has been a training. Your courses of studiesn ow honourably coucluded have afforded you an admirable preparation for life as a whole, and in most cases have developed aptitudes which will be of invalua ble service to you in your special avocations. And let me assure you that it is a matter of gratification to the University that the distinction now conferred upon you should improve your material prospects in life, for the foremost duty of every citizen is to earn an honest living in an honourable occupation. And though it is not an uncommon experience to hear the mercenary aspect of education decried, there is nothing in such criticism that need necessarily cause you even a momentary feeling of shame. But your education will have failed in its purpose if you regard this degree as its completion, or even as its highest reward. For your education in the University of Life will never be completed till your latest hour and the knowledge which you acquire is always of greater value than any distinction or reward which it may achieve. You have realised that in life and work the method of attainment is of greater importance than the means, the faculty of observation mightier than the power of memory and the application of knowledge far more valuable than its acquisition. It is my duty to remind you of the solemn obligations which you have taken here to-day. You have promised that you will in your daily life and conversation conduct yourselves as becomes members of this University: that to the utmost of your opportunity and ability you will support and promote the cause of morality and sound learning, that as far as in you lies you will uphold and advance social order and the well-being at your fellow-men. I need not remind you that these are no merely formal promises, though made in accordance with a set form, nor are they the less binding on each of you severally though ratified by all simultaneously. You have undertaken a great responsibility, but if, as I cannot doubt, you have derived the full benefit of your training, you will be able and ready to discharge that responsibility with credit to yourselves and to the University, for to-day the University has constituted you the guardians of her honour in the wider world.

Higher Education and its Critic

Higher education is to-day on its trial and its critics are many and relentless. The system is judged not on its academic or intrinsic merits, but on its actual products. And this is a fair criterion, for education is not a lifeless system, but a living instrument. What has been solemnly promised by you, ladies and gentlemen, upon whom professional degrees have been conferred, is morally binding upon all who pursue honourable and useful callings, namely to maintain their purity and reputation and never to deviate from the straight path of their honourable exercises by making your knowledge subservient to unworthy ends.

In his ideal state, the name of which has become a by-word for impracticable schemes, Sir Thomas Moore sketched a practicable fulfilment of such promises,

"The Utopians," he wrote, "consider it an evidence of true wisdom for a man to pursue his own advantage as far as the laws allow it, but they account it piety to prefer public good to one's private concerns, and think it unjust for a man to seek for pleasure by snatching another man's pleasure from him. On the contrary they think it a sign of a gentle and good soul for a man to dispense with his own advantage for the good of others, and believe that by this means a good man finds as much pleasure one way as he parts with another; for as he may expect the like from others when he may come to need it, so, if that should fail him, yet the sense of a good action done, and the reflections which he makes on the love and gratitude of those whom he has so obliged, give the mind more pleasure than the body could have found in that form which it had restrained itself. They are also persuaded that God will make up the loss of those small pleasures with a vast and endless joy, of which religion easily convinces a good soul."

Need for High Moral Standard

Whatever may be your occupation in life, be sure that your personal character will be reflected in your discharge of its duties, for it is impossible to act upon one moral standard for your public life and upon another for your private. The temptation to do so is one to which many succumb, though the moral standard of human life in all its varied activities is constant and immutable—industry, integrity, modesty, and benevolence.

The responsibility which you have assumed demands above all else that keystone of virtue in man and woman—moral courage. It is the absence of moral courage that spells degradation and ruin for individual and social life. As students you have acquired an aptitude to learn which will always lead you to seek and follow the guidance of all whose opinions are worthy of admiration and respect; but you have also attained position in society which justifies and demands of you a sturdy independence of thought, deliberate formation of accurate and impartial judgment, courage to act upon your matured opinions, courage to alter those opinions if necessary, courage to respect the moral courage of others, and courage to bear the consequences of your devotion to conscience and duty. This is the harder road. "Facilis descensus Averno." It is fatally easy to bow the neck unquestioningly to the yoke of public or communal opinion, to court the breath of popular favour by a blind acquiescense in the prejudices and superstitions of the multitude, to echo and imitate the thoughts of others as slaves of convention not as pioneers of freedom. This would be a betrayal of the trust of individual privilege and prerogative, a stain on the honour of the man, a stain on the honour of the University.

Platform and Practice

As educated ladies and gentlemen it is your high calling to advance as the leaders of public opinion, as the appointed representatives of the sacred cause of progress, not only to preserve traditions that are good but also to create traditions that are better, always bearing in mind that nothing but indigenous enterprise and effort can change or modify the customs of the race. Fine maxims and noble sentiments excite a warm glow of feeling which is too often mistaken for the action to which they prompt. But character can be built up only by acting upon such feelings and using every opportunity for doing so. There is no more pitiable or pathetic spectacle than that of men and women actuated by noble motives indulging in a weak sentimentalism unredeemed by one manly act. Such an equivocal attitude towards life undermines not only public confidence but also personal character. A strong initiative and a determined preseverence are what are needed in every community of men to bridge the gulf that too often separates platform and practice. In the task of upholding and advancing social order and the well-being of your fellowmen, it is inevitable that political considerations should arise. As students you have probably realized the danger and vanity of immature minds attempting to grapple with the intricate and elusive problems of statesmanship, but by graduation you have incurred in some measure at least responsibility for leading or for misleading others. No discontent can claim to be divine unless it has a worthy and a practicable object in view to be attained by honourable and straightforward means, nor can any political criticism be worthy of the name if it be devoid of sound commmonsense and appreciative sympathy, for co operation is the keynote of British Rule. But the social and political influence of the educated classes is not comparable either in force or in opportunity with their moral influence in the land. It is not brilliancy of intellect that can best illuminate personal character or enlighten the nation but the splendour of moral courage and the radiance of purity.

Graduates of the year, in you is represnted the flower of India's youth. See to it that in your generation you fulfill your natural destiny by bearing the fruit of India's glory.

PUNJAB UNIVERSITY.

The Convocation

THE CONVOCATION was held on the 7th December 1912 under the presidency of Sir Louis Dane, Chancellor. Full particulars will appear in our next issue.

Honorary Degrees

A DEGREE of Doctor of Oriental Learning *Honoris Causa* was conferred upon Sir Louis Dane, and also of Doctor of Laws *Honoris Causa* upon Justice Robertson, Fellow.

The Punjab University has nominated Doctor Vogel, Director, Archaeological Survey, delegate to the third International Congress of Historical studies to be held in London in April.

THE COLLEGES

AND SCHOOLS.

Medical and Engineering Colleges, Bengal. Rumour of Removal ted

THE following press communique has been issued by the Government of Bengal :—

There is no truth in the suggestions made in certain newspapers that it is in contemplation to remove the Medical College from Calcutta to Dacca. It is understood that the Dacca University Committee have had under their consideration the incorporaof a limited course in medicine in the scheme for the new Dacca University, but this proposal will in no way affect the existing facilities offered to medical students in Calcutta or the curriculum or position of the Calcutta Medical College.

As to the removal of the Sibpur Engineering College from its present site to which reference has also been made the matter stands precisely as it did when the Hon'ble Mr. P.C. Lyon indicated the general views held by Government on the subject on the on the occasion of the distribution of prizes at that institution in August last. A scheme for a Technological Institute for Calcutta, which will offer complete courses of instruction in mechanical and electrical engineering among many other facilities of a similar character, is being prepared and the Dacca University Committee have been asked to consider the question whether a Civil Engineering College should form part of the new University to be founded in that city.

The report of the Dacca University Committee will shortly be submitted to Government and as stated in the resolution under which the Committee was constituted it will be published for general information and opinions will be invited as to the recommendations made before any action is taken on it.

Prize distribution at the Campbell Medical School, Calcutta

THE prize distribution of the Campbell Medical School took place on Wednesday the 27th November 1912, presided over by his Excellency the Governor of Bengal. After their Excellencies, arrival Major Rait, the superintendent presented the annual report upon the work of the 29th session.

The report showed that the number of male students was 318 and women students 23 as compared with 268 and 16 respectively, an addition to the numbers having been sanctioned at the commencement of the Session, 40 male students and 3 women students completed their course of Study and became duly qualified Medical practitioners. The actual expenditure of the school was Rs. 74,600, the cost to Government Rs. 62,800, the cost to Government of each student Rs. 190 compared with Rs. 71,500, Rs. 62,200 and Rs. 232 respectively. The cost to Government of each student has decreased to 4.7 rupees.

His Excellency in addressing the assembly said :-

Major Rait and Colonel Harris tell me that this Institution has made great strides during the last 5 years and that the improvement is largely due to the energy and hard work of your late Superintendent, Major Newman, and they both tell me that in all he did Major Newman was ably supported by the present Assistant Superintendent - Captain Sharples. I am glad to learn from the report that Major Rait is interesting himself in the welfare of the students, and I am sure it is unnecessary for me to exhort all the teachers to co-operate with their Superintendent to this end. The corporate life of the college has great influence on the character of the student ; it must be very difficult for you to have a full corporate life here, when, as I understand is the case, you live in messes scattered

far and wide over the town. I have heard of the scheme for building a large hostel and if it were possible for me to pass an order which would create a hostel at once, I would gladly do so, but the difficulties in the way will take some time to overcome. I went over the proposed site when I was here the other day and I hope it may be possible to make the site suitable for a good hostel. After that the question of finance has to be considered and the sum required is a very large one. I see no immediate prospect of finding the money, but I will not let the matter be forgotten. But there is one thing that you can do to cultivate that corporate life and that is to join together and cultivate "esprit de corps" in athletics.

Scottish Churches College, Calcutta Annual Prize day & Foundation day.

THE Prize Distribution ceremony of the Scottish Churches College came off on Friday afternoon the 29th November 1912, under the presidency of Lord & Lady Carmichael. Dr. Watt, the Principal, welcomed their Excellencies and gave a brief history of the College. Lady Carmichael then distributed the prizes. His Excellency then addressed the assembly and said :—

Dr. Watt, ladies and gentlemen and students of the Scottish Churches College,—My wife and I just before we left Madras last March paid a visit to the Missionary College there founded by my fellow-countrymen and then as on previous occasions realised how good the Educational work done there is; so when Dr. Watt asked us to be present with you this afternoon at the foundation day of the Scottish Churches College in Calcutta we had no hesitation in accepting the invitation. I had the pleasure of meeting your Principal shortly after I came to Calcutta when Mr. Gourlay, with a confidence in my rapid powers of observation which I fear he has long ago found was unwarranted, took me round and tried to show me in one morning before breakfast all the great educational institutions of Calcutta. I had intended coming again this month to see you all at work in your classes. But my time has been largely taken up in inspecting Medical Institutions on certain problems connected with which I must make up my mind as soon as possible. I look forward to being able to inspect the Arts Colleges at no distant date, when I hope I shall be as favourably impressed by you as I was by your friends at Madras. When I looked at the prospectus of your College, I read at the opening of the paragraph entitled "College rules" the following words "The first object of this College is the formation of character upon a religious basis." That is the principle upon which Scottish education was founded and if Scotsmen can carry the principle into Indian Education it is the best gift that they can offer to India.

I understand from Dr. Watt that the ceremony to-day is not as I had at first thought a prize distribution, but that it is the celebration of your foundation day—a day which should be the focus of all the corporate life of the College : a day when you look back upon the traditions of your College and the achievements of those who have passed through its doors —a day when you consecrate yourselves to carry on those traditions untarnished.

Gentlemen, you have great traditions. The founder of your College Dr. Alexander Duff the first Missionary my fellow-countrymen sent to India was one of the greatest teachers and preachers whom Scotland produced during the last century. As far back as I remember I looked on Dr. Duff with admiration. In my nursery there was a tin box into which my brothers and I used to drop pennies for Dr. Duff. Perhaps those pennies found there way here. Dr. Duff knew well how to get money from Scotsmen —I remember a little Skye terrier called Dr. Duff because he begged so well—and I believe he knew how to spend that money well. Since I came to India I have heard much of his influence on Indian thought and education ; and I am proud to think that though I can hardly say I knew him, I have often seen him and sometimes spoken to him. I am told he was the friend of that great Hindu Reformer—Raja Ram Mohan Roy—and a fellow worker with Macaulay when in 1834 he penned his famous minute on education and that his evidence in England greatly influenced the framers of the Despatch of 1854 the foundation of the educational system in India.

I am told that Mr. Kali Charan Banerjee—a man who exerted a wide influence in Calcutta and who was held in high honour by Christians and Hindus alike who was the Registrar of the University and who represented that body in the Bengal Legislative Council was a student of former days. There are many more whom you will remember in your own hearts to-day—men whom I would like to have met. The efficiency of the Institution as a teaching College is proved by the results it has achieved and its popularity is evinced by the large number of applicants for admission who have yearly to be turned away from its doors. You have therefore the very best reason to be proud of your College. Collegiate institutions in Calcutta are different from those to which I have been accustomed. The number of students are great nearly 1,100 in this one College and I am told that the students live in scattered homes. In your college greater progress has been made than in some others in bringing the students together into hostels and I hope some day to visit you in your rooms at the Dundas Hostel, the Wann Hostel and the Duff Hostel. I am glad too to hear that you hope shortly to add two more houses. There is nothing like the corporate life to develop character. Your hostels are as near as you can get in Calcutta to the College to which I have been accustomed and in whose merits I believe. It is there that life-long friendships are made and it is there that you are able to meet and rub soldiers with your compeers. It is there we get the nonsense knocked out of us and learn what to admire in others and what to avoid in ourselves.

But remember always that you must have a sound body if you are going to make the best use of your brains. The battle of life is hard : and a weak body is a severe handicap. I have seen many men go under because they forgot their health while they remembered their studies and I would urge you all to

take a real interest in the athletic side of your own. Had I a magic wand, I would, give every college in Calcutta an athletic ground ; but the situation of the colleges is such that I fear this is impossible and you will have to go on with Marcus Square till such time as the city of Calcutta can provide, more for those lungs which are so essential for health in a great city. I hear from Dr. Watt that you have cricket, football tennis and other games. Competition will help to keep up your "esprit de corps" and I shall gladly give you a Challenge Cup to be held by the hostel which has the best record in athletic or in whatever way Mr. Cameron and the Athletic Committee think best.

Prize Distribution at the Madras Christian College.

THE Prize Distribution of the Madras Christian College, was celebrated on the 22nd November 1912, at the Anderson Hall, with His Excellency Lord Pentland in the chair. Besides Professors and students of the College, there was a very large number of ladies and gentlemen present. Among those present were the Hon'ble Sir Arnold White, the Hon'ble Sir Ralph Benson, the Hon'ble Mr. P. R. Sundara Aiyar, the Hon'ble the Raja of Kuruppam, the Hon'ble the Surgeon General W. B. Bannerman, Dr. Mrs. and Miss Henderson, Mr. A. C. Pranatharthihara Aiyar, and the Rev. Thompson.

Their Excellencies Lord and Lady Pentland accompanied by Captain Buchard, A.D.C., arrived punctually at 5 P. M., and were received at the entrance of the College by the Rev. G. Pittendrig and Rev. E. M. Macphail and conducted to their seats amidst loud applause.

Rev. G. Pittendrig welcomed His Excellency in the following apt words :-

Your Excellency, may I in the name of the College express the pleasure we have in seeing you in Madras. We welcome you not only for your own sake but for the interest you have long taken in the advance of education. We are aware that just before your departure for India you were elected an Honorary Fellow of the Educational Institute of Scotland, because of the noble service you had rendered to the cause of Scottish education, and we are confident that education in South India will receive from you the same sincere sympathy and support.

He then read a report of the working of the College during the portion of 1912 that has passed.

His Excellency then distributed the prizes consisting of medals, books, silver cups and cash to the successful students, many of whom were cheered as they received the prizes.

Prize giving Day at the Mahboob College, Secunderabad.

THE distribution of prizes to the pupils of the Mahboob College came off on the 21st November 1912. Col. A. F. Pinhey, C.S.I., C.I.E., the Resident, presided and gave away the prizes. The Head Master's Report showed that at the end of the year 1911 the strength of the College was 705. The boys have to attend a regular course of gymnastics and Drill. The President, then made a speech and dwelt upon the needs of the college.

His Excellency Lord Pentland's visit to the Pachaiyappa's College, Madras.

ON the afternoon of the 27th November at 3 o'clock His Excellency Lord Pentland paid a visit to the Pachaiyappa's College. At the entrance His Excellency was received by Mr. J. C. Rollo, Principal, and conducted round the classes, while at work. The Laboratory and the Library were also inspected. His Excellency took keen interest in the inspection and spent nearly an hour in the College. Before leaving the premises, Lord Pentland expressed his high appreciation of the work done in the College and left the place well pleased with everything he saw.

Lord Pentland's visit to the Madras Law College.

HIS Excellency also paid a visit to the Law College. The Principal Dr. S. Swaminathan received the Governor and conducted him round the various classes while at work. The Library and the Reading Room were also inspected.

Visit to the Doveton College.

THEIR Excellencies Lord and Lady Pentland accompanied by an Aide-de-Camp visited the Doveton Girls' High School and the Doveton College for boys, Vepery, on the 2nd December evening at 3 O'clock. At the entrance of the Girls School Their Excellencies were received by Miss. I. M. Sampson the Lady Superintendent of the school and taken round all the classes while in working order. After spending about twenty minutes in the School Their Excellencies proceeded to inspect the Doveton College. There they were met by Mr. W. D. Raynor, M.A., Principal and shown the various classes while at work. Their Excellencies returned to the Doveton Girls' High School and had tea. Their

Excellencies then left for the Government House at 4 O'clock.

EDUCATION ABROAD

LONDON UNIVERSITY.

Ratan Tata Fund.

A SCHEME has now been arranged for the administration of the recently announced gift by Mr. Ratan Tata, of Bombay, of the sum of £1,400 a year for three years to promote the study and further the knowledge of the principles and methods of preventing and relieving destitution and poverty.

The objects of the gift will be carried out by the collection and consideration of materials and information bearing on the subject; by the formation of a Bureau for the provision and dissemination of information, and by the increase of knowledge of the principles and methods of prevention and relief by lectures and publications and in other ways. An office has been rented for the Foundation at the London School of Economics.

Mr. L. T. Hobhouse, M.A., Martin White Professor of Sociology in the University, will act as Honorary Director, and Mr. E. J. Urwick, M.A., Tooke Professor of Economics at Kings College, will act as Honorary Secretary. Mr. R. H. Tawney, B.A., sometime Scholar of Balliol, who was the first teacher of Tutorial Classes for working people for Oxford University, and who has been prominently connected with the work of the Workers' Educational Association, has been appointed Director, and will take up his duties in January, 1913.

Appointments Board.

THE Fee for Registration on the Appointments, Board, constituted to assist Graduates and Students of the University in obtaining Appointments, and to co-ordinate and supplement the work done by the Schools and Institutions of the University with this object, has been fixed at Five Shillings, renewable annually so long as the name is retained on the Register. Application for further information should be made to the Secretary of the Board at the University.

Boy Scouts.

IN the course of an address given at Crewe upon Educational Reform, Sir William Mather, Chairman of the Union of Lancashire and Cheshire Institutes, said that, "reluctant as he was to believe it, it appeared to him that boys acquired higher qualities of character and intelligence in two years as Scout boys than in eight years as schoolboys." The problem is, in the opinion of the *Educational Times*, not so simple as Sir William seemed to imagine. It is not possible to isolate a group of boys from all other influences of their environment and to give them no training of any kind except that which they receive in their corps, and to compare the result with another group of boys who have been allowed to come under no influence except that of classroom and whose natural activities outside the classroom have been entirely suppressed. Only so would it be possible to make a comparison of value. The fact is that the training in school is necessary and valuable, and the training as a Scout, or whatever for of out-of-school activity is chosen, is also necessary and valuable. The two are complementary. The Scouts whom Sir William admired were also schoolboys.

Workers' Educational Association.

THE fifth Annual Meeting of this Association for Wales was held at Cardiff College, on September 21, under the presidency of Prof. Mackenzie. Considerable success has attended its work during the past twelve months. Audiences of over a thousand listened to lectures on economic and industrial history during the recent coal strike evidence of the keenness of a section of the working men and women for higher education. There were also four full University tutorial classes in North Wales and two in West Wales, all of which were showing satisfactory progress. In his opening address, Prof. Mackenzie stated that so far the Association confined itself mainly to developing the interest of the working people in social and general questions of citizenship, and he defended this policy on the ground that, as the government of the country was becoming more and more democratic, it was essential that every man should become conversant with his duties as a citizen.

State Scholarships for Europeans and Eurasians

IN the year 1907 His Majesty's Secretary of State for India sanctioned the institution of one scholarship of £200 per annum tenable at a European University to be awarded in each year to a member of the domiciled European and Eurasian community in India on the understanding that candidates belonging to this community should no longer be regarded as eligible for the two University State Scholarships at present granted to natives of India. *For the scholarship to be awarded in the year 1913 applications are now invited by the D.P.I. Bengal.*

The scholarship will entitle the holder to an allowance not exceeding £200 per annum payable from the date of his arrival in England and will be tenable for three or four years, as circumstances may require, at any University in the United Kingdom or, with the special sanction of the Government of India, at a foreign University. The candidate to whom the scholarship is awarded will be required to proceed to England within a reasonable period from the date of his selection, and to reside there for a period of three or four years, as the case may be, unless compelled to return sooner by ill-health. He will be provided with a free second class passage to England, and also with a free return passage if he completes the full period of residence or is compelled by sickness to return within that period.

The two main principles which govern the scholarship are—(*i*) that as the object in view is to assist a domiciled European or Eurasian to go through a University course in England the scholarship will ordinarily be awarded to a young man at the close of his school career in India so that he may join the University at practically the same age as boys educated in England: the Government of India place the age limits at 18 to 21, *i.e.*, the candidate must have completed 18 years of age and not have completed 21 years on 31st March of the year in which the scholarship is awarded, and (*ii*) the scholarship will be given to the candidate who is most likely to win distinction at the University.

The application which should be in the candidate's own handwriting should give full details as to applicant's age, qualifications &c., as also the University at which the candidate proposes to study and the reasons for selecting the particular University and the special aptitude, if any, which the candidate has shown for the kind of study which he proposes to pursue. This should be accompanied by the Principal's certificate, birth certificate and health certificate. The last day of submitting applications is 31st January 1912.

WHAT OUR STUDENTS ARE DOING ABROAD

Indian students and the Inns of court

THE London correspondent of the "Manchester Guardian" calls attention to a hardship lately put upon Indian students for the Bar, which has very naturally caused a bitter feeling among the Indian students in England who aspire to a legal carrer. He writes:—

> Some two years ago, when a tragic event brought about a strong wave of hostile feeling against the Indian students, the regulations for call to the Bar were drastically revised with the idea of placing additional checks upon the stream of men from India. The existing preliminary examination was abolished and a schedule of substituded qualifications set up. A temporary respite before these new regulations came into force was obtained by the India Office, but the new grievance relates to the sudden curtailment of two of these substituted qualifications. On the one hand, candidates who have passed the qualifying examinations at the Scottish Universities are now restricted for admission to membership of an Inn of Court to those "whose native language is English." The effect and apparent intention of this limitation is obvious. On the other hand, Indians qualifying by means of Oxford and Cambridge senior local examinations are now to be accepted only under a provision that Latin is one of the subjects certified. This is a particularly harsh proceeding, as it entirely ignores the established practice of Inns of Court in exempting natives of India from the examination requirement of Latin.

Travancore successes

Mr. Krishna Pandalai. B.A., B.L., who was practising at Quilon, as a High Court Vakil, has passed the L.L.B., Examination of the London University with honours. He had gone to England a year back to qualify himself for the bar. He is quite young and it is very creditable that he managed to study for the LL.B., along with his Bar studies. We are also glad to learn that the younger brother of Mr. Krishna Pandalai has come out successful in the I.M.S. examination. He is the first in Southern India to pass this examination.

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VERBAL TABOOS

By Fred Newton Scott

The University of Michigan, U.S.A.

A taboo, in the words of the dictionary, is a prohibition laid by primitive peoples upon certain objects or acts. It is a ban, curse, or interdiction, of such a character that anyone who touches the tabooed object or performs the tabooed act, is liable to a penalty. Among different races the taboo is applied to many different things, as to persons, implements, places, food, and garments; but the most interesting phase of it, at any rate the phase to which I would here direct special attention, is its application to spoken words. The general character of this kind of taboo is thus indicated by Tylor in his *Early History of Mankind*:

A man will not utter his own name; husband and wife will not utter one another's names; the son or daughter-in law will not mention the name of the father or mother-in law, and vice versa; the names of chiefs may not be uttered, nor the names of certain other persons, nor of superhuman beings nor of animals and things to which supernatural powers are ascribed.

From the many examples of such taboos in Tylor's work, the following, quoted from the Jesuit missionary Dobrizhoffer, is perhaps the most significant:

The Abiponian language [the Abipones were a tribe of South American Indians, now extinct] is involved in new difficulties by a ridiculous custom which the savages have of continually abolishing words common to the whole nation, and substituting new ones in their stead. Funeral rites are the origin of this custom. The Abipones do not like that anything should remain to remind them of the dead. Hence appellative words bearing any affinity with the name of the deceased are presently abolished. During the first years that I spent among the Abipones, it was usual to say *Hegmalkam kahamatek?* "When will there be a slaughtering of oxen?" On account of the death of some Abipone, the word *kahamatek* was interdicted, and, in its stead, they were all commanded by the voice of a crier, to say *Hegmalkam negerkata*?

In like manner, the writer goes on to say, were prohibited the words for crocodile and tiger because in the Abiponian language these words bore some resemblance to names of persons who were recently deceased.

A custom at once so inconvenient and so irrational, one usually thinks of as existing only among primitive races; it is interesting, therefore, to note that the same practice or something strikingly akin to it, prevails in the most highly civilized communities, were interdictions—not to speak of bans and curses - are imposed as arbitrarily as they were among the Abipones. An illustration will help to make this clear.

Of the books that have appeared within the past three decades in this country and in England a considerable proportion have dealt in whole or in part with the subject of English usage. One of these, entitled *Don't*, which came out in 1883 and passed through many editions, consisted of a series of prohibitions laid upon various acts and customs under penalty of exclusion from polite society. So far as its interdictions dealt with such matters as eating peas with one's knife or wearing a dressing-gown at an evening party, that is, so far as they were a reflection of current social opinion, the book was not especially noteworthy; but several of its mandates, especially those regarding matters of English usage, went beyond this limit. The following examples will illustrate:

Don't say **vest** for **waistcoat**;[1]
Don't say **rubbers**, say **overshoes**;
Don't say **sick** expect when nausea is meant.

Prohibitions such as these do not differ materially from those noted above; that is, they are arbitrary commands to cease from the use of certain words that are common to a whole nation. These prohibitions are, then verbal taboos of the civilized type.

Other examples of the verbal taboo may be found in the once highly popular writings of Richard Grant White. From the twenty-third edition of his *Words and Their Uses* I quote the following passages:

Restive means standing stubbornly still, not frisky, as some people seem to think it does. A restive horse is a horse that balks [p. 152].

Presidential. This adjective, which is used among us now more frequently than any other vituperative, laudatory, or boastful, is not a legitimate word. Carelessness or ignorance has saddled it with an i, which is "on the wrong horse" . . . . The proper form is **presidental**, as that of the adjectives formed upon **tangent** and **exponent** is **tangental** and **exponental**. **Presidential, tangential,** and **exponential** are a trinity of monsters which although they have not been wholly lovely in their lives, should yet in their death be not divided [p. 232]

Stand-point, whatever the channel of its coming into use, is of the sort to which the vulgar words **wash-tub, shoe-horn, brew-house cook-stove,** and **go-cart** belong, the first four

1 The *International Dictionary* still taboos *vest*, although *waistcoat*, the only alternative, is to the great body of Americans as bookish as *glebe*.

of which are merely slovenly and uncouth abbreviations of **washing-tub**, **shoeing-horn**, **brewing-house**, **cooking-stove**, the last being a nursery word, a counterpart to which should be **rock-horse** instead of **rocking-horse** [p. 232]

In other places Mr. White attempts to taboo the use of **telegram**, **reliable**, **depot** for **station**, **railroad** for **railway** and **to observe** in the sense of **to remark**.

Of more recent works on English usage a little book entitled *The Verbalist* has had perhaps the widest circulation. It contains many examples of the taboo. The reader is forbidden to use **all the same** for **nevetheless** (p. 6,) **I have all of them** for **I have them all** (p 6), **consider** in the sense of **suppose** (p. 54) **a bad** cold for **a severe cold** and **lunch** for **luncheon**. The author even interdicts the use of **done** in the sentence, "He did not cry out, as some have **done** against it," which should read, he says, "He did not cry out as some have, against it"

A work by Mr. G. M. Tucker entitled *Our Common Speech* also contains interesting examples. Mr. Tucker would eliminate from the English vocabulary the verbs **dissever** and **unravel** and the adjective **lesser**. **Preposterous** he thinks should be used only in its etymological sense of hindside-before, never in the sense of **absurd**. A like judgment is passed upon the adjective **impertinent**.

An impertinent remark [says Mr. Tucker] is one that has no connection with the matter under discussion. But the use of the term ought not to be thought to imply any censure on the good manners of the speaker referred to, for the most courteous person in the world makes an impertinent remark whenever he introduced a new topic of conversation. To call a person "impertinent," in any case, is to "mix" things badly. A person can no more be "impertinent" than he can be irrelevant or disconnected [p. 23].

More significant than the foregoing, because coming from a more authoritative source, are the taboos published by the late Professor A. S. Hill, of Harvard University, in his school textbooks, *The Foundations of Rhetoric* and *The Principle of Rhetoric*. If we obey the injunctions of these books, we shall no longer speak of anything as being **a success**; we shall speak of it as being **successful** (*Foundations* p. 52.) we shall cease saying **an editorial**, and in its place say **an editorial article** or **a leader** (p. 59 ; we shall not think of the barn as being **back** of the **house**, but as being **behind** the house (p 143) According to Professor Hill we must not say "The United States is a nation," we must say "The United State **are** a nation." The preposition "onto" (or "on to) is strictly forbidden. It is wrong to say "We climbed out of the window onto the roof of the porch." Instead the sentence should read "We climbed out of the window on the roof (or to the roof) of the proch." **To gesture**, according to Professor Hill, is a verb which is not a verb (p, 115). The sentence: "A beautiful doll came out and gesticulated solemnly." Finally, the verb **laundered** is condemned (*Principles*, p. 34) as a vulgar substitute for **washed and ironed**.

The number of recent books of this class is so great that it would be easy to fill the remainder of the paper with their titles and their lists of prohibited expressions.[1] But the examples already cited are sufficient, I trust, to make clear the general nature of the phenomenon under discussion. I wish now to inquire into its origin. Why should any user of the English language feel called upon to vilify a harmless, necessary word such as **launder** in the sense of **wash and iron**, or **reliable** in the sense of **trustworthy**, or **impertinent** in the sense of **insolent**? What was Professor Hill's motive in endeavouring to banish from our speech the useful noun **editorial**? Why should Mr. Tucker recoil from the word **preposterous**, and the editor of *The Verbalist* from the expression **a bad cold**?

These are hard questions, even for the writers themselves. Nevertheless I will venture an answer.

Verbal taboos are the outcome of a class of human feelings to which may be given the general name "antipathies." Feelings of this class are so instinctive, deep seated, and (usually) unreasoning that their origin is often regarded as mysterious, or at least as hopelessly obscure. They may be divided into two classes: First, normal (or social) antipathies, those which we share with the great majority of our fellows—such, for example, as the common antipathy to snakes and to disgusting spectacles; and, second, abnormal antipathies, which are peculiar to an individual and are exaggerated in intensity

Of the second class, with which we are here chiefly concerned, the most striking antipathies are those directed against the lower animals. Shylock, it will be recalled, in excuse of his inhumanity to Antonio, says:

[1] I may add the following interesting comment on *had better*, taken from a brightly written little handbook intended as a guide for the reporters and copyreaders of a leading metropolitan newspaper. This expression for 'would better' or 'might better,' as in 'I had better starve than do anything dishonorable,' although formerly of good repute, is falling into deserved disuse 'Had starve' is gramatically impossible, and the addition of 'better' help the case not at all. The use of 'had better' nowadays is confined to literary reactionaries and 'standpatters,' to the careless and to the ignorant."

Some men there are love not a gaping pig,
Some that are mad if they behold a cat.

Napoleon, it is said, had an antipathy to white dogs. Dean Swift tells us that Bolingbroke, when he cast his eyes upon "a poor harmless toad," acted like one bereft of his senses. Ambroise Parè had a patient who would faint at the sight of an eel, and another who was convulsed on seeing a carp. Tycho Brahe, the Danish astronomer, abhorred foxes; Henry III of France, cats, mice, and spiders; and Marshal d'Albret, pigs. Erasmus was made feverish by the smell of fish.

Besides the lower animals, many other classes of objects have had this power to arouse unreasoning aversion. Mme. de Stael could not endure the sight of the rising full moon. It is said that Dickens had an aversion to stiff shirt bosoms, and Agassiz to polished steel. Louis XIV hated the sight of barefooted children. Disraeli had an attack of vertigo when he saw anyone chewing gum —one could wish that this antipathy were more widely dispersed—and Buffon flew into a rage if anyone put an egg on the dining table at which he sat. A king of France and a secretary of Poland bled at the nose if offered apples. And Boyle, the Irish philosopher, was overcome at hearing the splashing of water.[1]

But antipathies are directed not only toward men, animals, and inanimate objects; what is more to our purpose, they are also directed against words. As Molière makes Armande say in *Les femmes savantes*[2]:

Par une antipathie ou juste, ou naturelle,
Nous avons pris chacune une haine mortelle
Pour un nombre de mots, soit ou verbes ou noms,
Que mutuellement nous nous abandonnons.

"Rationally or irrationally," wrote Newman to Professor Earle, "I have an undying, never-dying hatred to **is being** (in such a connection as 'the house is being built'), whatever arguments are brought in its favour." In the same spirit, Mr. William Matthews, in *Words, Their Use and Abuse*, writes regarding the word **anyhow**: "An exceedingly vulgar phrase. Its use in any manner, by one who professes to write and speak the English tongue with propriety, is unpardonable." Lowell speaks of "that abominable word **reliable**," and Professor Genung of "the wretched word **enthuse**.[3]" "My pet aversion," wrote Professor William James in a private letter, "is **postal card** for **post card**."

How do these verbal antipathies arise? An answer to this question may suggest itself if we consider for a moment the nature of speech and the process of acquiring it.

Speech is the system of vocal sounds by means of which men express their thoughts and feelings and hold communication one with another. How this system originated we do not clearly know. Probably, as Wallace has tried to demonstrate,[1] it is a survival of acts and attitudes of primitive emotions. But whether this hypothesis be true or not, speech, as we now find it, is largely conventional, that is, it consists of signs which have little or no apparent relation to the things for which they stand, or the ideas which they express. Into a society employing such a system each one of us is born, and no inconsiderable part of our lives is spent in connecting together sign and idea and sign and thing in the way upon which society has agreed.

To the infant child the words of the mother or the nurse are at first, we may suppose, on a par with all other sounds that strike his attention, such as the slamming of doors, the creaking of shoe-soles, the ticking of the clock, or the rumble of wagons in the street. All are alike strange and new, and can hardly be said to be either pleasant or unpleasant to him, except in so far as they arouse (according to one authority)[2] a vague sense of fear. But in course of time he learns to discriminate between the sounds which come from the street and those which are made by the curious, moving, breathing objects which flit in and out of his field of vision. The sounds that these beings emit have some special reference to himself. He hears them over and over again under the same conditions, and some few, which are associated with the most intense and most habitual experiences of his little round of daily life, he soon learns by imitation to pronounce; but only by slow and sometimes painful advances does the child learn to connnect with these sounds the things and ideas which they convey to his elders. His first impressions are likely to be wide of the mark. Since the words he hears are uttered under complex conditions the particular of which he is unable as yet to distinguish clearly, the sounds may seem to him to be connected with some source of pleasure or of pain with which, in reality, the relation is purely accidental. Thus a child who is warned not to touch a tea-pot because it will burn, thereafter calls all kinds of pots, vases pitchers, and cups, "burnies"; or, upon hearing a boy ringing a bell and being told that it is "Do-

[1] Most of these examples are taken from the *Popular Science Monthly*, Vol. XXVII, p. 137. I do not vouch for the statements.

[2] Act II, scene ii. I am indebted to my colleague, Professor J. R. Effinger, for this apt citation.

[3] I do not mean to defend the use of this word, but simply to call attention to the mental attitude implied in the adjective "wretched."

[1] "The Expressiveness of Speech," *Fortnightly Magazine*, Vol. LVIII, N. S., p. 523.

[2] Perez, *Psychologie de l'enfant*, pp. 71-74.

nald," attaches the term "donoo" to the sound of all bells, and even to all kinds of loud and (to him) pleasing noises.

Sometimes a word becomes by mere chance so closely associated with a certain irrelevant thing that for the rest of the individual's life the sound of the word calls up a mental image of the thing. A curious example of this is seen in the phenomenon known to psychologists as pseudochromaesthesia or "color-hearing," that is, the association of sensations of sound with sensations of color. Thus to a child nine years of age, examined by an instructor in psychology at Columbia University, the word **Maria** was associated with yellow, **Katherine** with red, **Mary** with white, **Wednesday** with dark orange, **sunday** with bright yellow, **August** with hay color, **hurt** with brown, and **pert** with black. Each letter of the alphabet and each of the Arabic numerals had for this child its appropriate color.[1]

Other influences may operate upon the child to give to a word or expression a meaning different from that which is attached to it by his elders. If the word is hard for him to pronounce; if it is associated with persons whom he does not like; if it has a chance resemblance to another word that is connected with painful reminiscences; if it has been heard in connection with some startling experience which produced a nervous shock and left a permanent impression upon the childish mind—if any one of these things happen, the word in question may thereafter be to the child a hateful word; and this quite independently of any denotation that the word may acquire later. It may, therefore, occur, and as a matter of fact does frequently occur, that the child has personal feelings toward particular words and expressions which are not shared by the remainder of the human species. He likes certain words and dislikes other words in a quite arbitrary way. He has, so to speak, his own private vocabulary.

This personal, private attitude toward certain words may be illustrated by an experiment which I made with one of my classes. I asked each student to describe, impromptu, the images that were aroused in his mind by the word **pimpernel**, in the line from Tennyson's *Maud*,

The pimpernel dozed on the lea.

Since the word was unknown to virtually all the members of the class, it is obvious that whatever meaning they attached to it was a personal, private meaning, derived from its sound, from its connection with the word "dozed" in the context, or from chance associations. In other words, the attitude of the student toward the word **pimpernel** was similar to that of the infant child toward the words **papa** and **mama** upon hearing these words for the first time[1]. I will quote a few of the reports:

1. The word pimpernel calls up in my mind the image of a pampered cur. He is a worthless brute who spends most of his time sleeping in the warm sunshine.

2. The pimpernel seems to me to be a small animal resembling an eel. It has short, rounded ears, and bright, beadlike eyes. As I imagine it, the pimpernel is lying half-asleep in the grass near the shore of a lake, ready to slip into the water at the slightest sound.

3. A pimpernel seems to me to be a tramp or gypsy. He lies on the bank in the sun with an old, battered hat drawn over his face.

4. I do not know what the word means, but it instantly suggests to me a small lizard covered with pimples or warts. The image flashed upon my mind as soon as the word was spoken and is still vivid and distinct. Although I never heard the word before, I seem always to have known it and to have attached this meaning to it. I am absurdly confident that this is the true meaning.

Other students conceived of a pimpernel as a frog, as a smaller deer, as a dragon fly, and as a small tree or shrub like a prickly pear.

If it is now clear from these examples how easily verbal antipathies may arise, we have next to inquire how many words of this character are to be found in the individual vocabulary and of what classes they are.

In order to answer these questions I undertook some little time ago a rather extensive investigation, the results of which I now propose to give. In the pursuit of this inquiry about a thousand persons were interrogated, but the results given in this paper are based upon the reports of only two hundred and fifty, these reports having been selected from the total number, not with reference to their contents, but because they were written by persons in whose good faith, frankness, and powers of introspection I could put full confidence. Each subject was asked to make a list of the words which were particularly displeasing to him, and to state the reasons for his dislike.

Five of the subjects, or 2 per cent, after a thorough exploration of their mental furniture, could discover, much to their regret, no antipathies whatever. The same percentage prevails in the remaining reports.

The total number of words given in the two hundred and fifty reports, including repetitions, is 1,334. The average number of hated words to each individual is, therefore, a little over five.

Psychological Review, Vol. III, p. 92

[1] The term "pimpernel" denotes, I need hendly say, a small red or purple flower which grows in some parts of this country and in England; but only three members of the class were aware of this.

The reasons given by the subjects for their antipathies may be classified under four principal heads. Words are disliked, first, because the sound is displeasing; second because the spelling or the appearance of the word on the written or printed page is an offence to the eye; third, because the word when heard or read arouses unpleasing images; and fourth because at some previous time, generally in early childhood, the word became associated with a painful incident, or with some person whom the subject disliked. The last two reasons, being closely related, may be treated as phases of a single phenomenon.

I will first consider antipathies to sounds. Certain combinations of vowels and consonants strike some ears as unidiomatic of the language. The pronunciation **progr'm** for **programme** is characterized by one subject as a barbarous combination of noises, affecting him somewhat like a grunt. It does not seem to him to be part of the English language. In the same list belong **unconscionable** and **ratiocination.** Others object for similar reasons to the participles **drunk** and **swum** in the formation of the prefect tense. "The preterite **flung,**" says one writer, does not sound grammatical to me. **Flang** is, for the instant just before I pronounce it, not only more satisfying but seemingly more idiomatic."

Another class of words is offensive because the sounds lack character. The sound of **helpmeet** is described as flat and sickish, of **grab-bag** as colorless and faded. **Amiable, spoliation,** and **acquiesce** have for certain persons no individuality. The word **widower** strikes several as a feminine, ridiculous sort of word. A considerable number of persons hate the plural form **women,** as being weak and whimpering, though the singular **woman,** connotes for the same persons ideas of strength and nobility. It is for this reason perhaps that **woman's building, woman's college, woman's club, and** the like, have supplanted in popular speech the forms **woman's building, woman's college,** etc. It is noteworthy also that in the titles of magazines and names of women's club the singular in most instances has displaced the more logical plural.

Disappointment of the sense for rhythm is responsible for a further class of aversion. Thus **adjunct** and **adopt** seem to bring the writer up with a jerk. On the other hand the word **equilibrium** is felt by some to be too long. "I always short," says one writer, "to pronounce it **equillibrium.**" The necessity of suddenly changing the accent gives me great annoyance. I never use the word if I can avoid it." A violent antipathy to **fac-simile** is explained as being due to the impression that "one end of the word is heavier than the other end." The probable reason for this appears in another report, the writer of which states that for a year or two before he heard any one use the word, he always pronounced it, to himself, **fac simile.**

Some words are objectionable because the sound is not congruous with the sense. They are, so to speak, verbal misfits. Thus **venison,** which to most persons is fairly agreeable, has for one of my subjects a harsh, rasping sound in no way related to its denotation. **Pail** seems to several too frail and unsubstantial a term to be fitly applied to that sturdy thing, a bucket. The sound of the word **jelly** connotes for one unfortunate person a clammy, tasteless substance, and this word if it is used at the table, takes away his desire, otherwise keen, for the article of food which it denotes.

A curious and interesting class embraces words which are offensive, not in themeselves, but because the sounds call up, by association, other sounds or other words. **Chum,** for example never fails in the case of one subject to call up the croacking of a frog. **Swallow,** for another, is always accompanied by a hollow sound. **Castor,** in **castor-oil,** invariably suggests to one writer a creaking noise, probably because the sound associated with one meaning of the word is carried over to the other meaning. **Pert** is spoiled for one by the unfailing intrusion of the pronunciation **piert,** with which in childhood he was familiar in the provincial phrase "right piert." For another, **pretty** is spoiled by the intrusion of **purty** and **larynx** by the intrusion of **larnyx.** Of parasitic words there are many singular examples. **Vehicle** to one person suggests **hiccough,** possibly because he has heard the vulgar pronunciation **vehiclle.** To others **implous** suggests imps; **rendition,** a tearing or rending; **squeamish,** squirming. An odd association is that of **cadaver** and **skedaddle,** due apparently to nothing more than the similarity of the stressed vowels. One subject has concieved a violent antipathy to **pectoral,** because whenever he hears it he sees a picture of apples and plums in which the birds have pecked holes. Many persons will sympathize with one of my subjects in an aversion to **galoshes,** though not perhaps for the same reason. "This word," says the writer, "is highly offensive to me because whenever I begin to pronounce it, I have an uneasy feeling that before I am through with it I will say either **gosh** or **molasses**"

Finally comes a long list of words of which the sound is simply ungrateful to the ears. Such are **lank, bosom, succinct, gamut,** (offensive when spoken but pleasing in print), **sofa, discomfit, goitre** (the sound of which was disliked before the meaning was known) **emblem squalor, squalid, fulsome,** and many others. The

general character of such antipathies is illustrated by the following note on the word **got**: "I never use this word when I can avoid it. The sound of the o is unpleasant. When I open my mouth to say it I contract the muscles of my throat as if I were trying to get rid of something distasteful, and I involuntarily turn of my nose."

A second cause of aversion is found in the spelling. The cases due to this cause, though few in number, are extremely interesting.

In six instances the antipathy is due to a parasitic or phantom word, differently spelled, which starts up in the mind whenever the original word is seen in print or writing. As a general thing the phantom spelling is phonetic. The word **bellows**, for example, is haunted by the phantom **bellus, gallows** by **gallus, blood** by **blud, berry** by **bury**, and **victuals** by **vittles**. The way in which the phantom spelling reacts upon the original word may be illustrated by a report or the word **beau**. This word, according to one writer, though momentarily pleasing, invariably brings with it the parasitic word **bo**, the effect of which is to make the original "intolerably mawkish."

A parasitic spelling of a different kind appears in connection with the word **dowager**—which to me, by the way, always means a dowdy woman. One subject reports that this word, as soon as his eyes fall upon it, instantly turns into **dwouager**, with a corresponding pronunciation.

Just at the sound may seem to be a mere jumble of noises, so the spelling of a word may seems to be a mere jumble of letters. Such is the word **islet** to one, the word **misled**[1] to another. **Dudgeon** seems to one writer to be lacking in a letter, though he cannot say what the letter is. The spelling of **depot** is offensive, for no ascertainable reason, to a considerable number.

A third cause of antipathies lies in the power of certain words to arouse incongruous or unpleasing images. In some cases this power seems to reside in the sound alone. Thus **girdle** and **gargle** arouse images of a disgusting semi-fluid substance like gravy: **settle** and **fettle**, of a heavy, quivering, jelly-like mass. **Lobby** calls up the figure of a fat, coarse-looking fellow; **ma'am** the image of a big mouth. **Grewgious**, a name which Dickens gives to a character in *Edwin Drood*, causes one of the subjects (who has not read the novel) to see a picture of a wry-faced man and to hear the sound of gritted teeth. The word **squeamish**, in several instances, brings up a mental picture of angle-worms on the sidewalk after a rain. **Yam** suggests to one a noisy ticket-seller at a circus; **snobbish**, to another, a mass of slime; **spurious**, to third, a man kicking a small dog.

[1] Commonly pronounced "mizzled" by young children, and taken to mean struck by a missie.

In a another set of instances, a part of the word by analogy or by a kind of punning suggests some word. Thus, **lamentable** is made ridiculous by the accompanying picture of a lamb, **melancholy**, by a picture of melons, and **surreptitious**, by a picture of a sticky syrup jar. The managing editor of a New York daily is said to have banished the word **toothsome** from the columns of his paper because it calls up in his mind the image of a large human tooth to which adhere particles of food. Avoidance of the word **mediocre** is in one of the reports traced to an aversion to the color yellow. Why the word **sort** in the phrase, "a good sort of chap," should be obnoxious was a mystery lessened at first by the discovery that the word always evoked an image of rotten apples," an idea and a phrase with which the writer had become familiar in early childhood; and thus the antipathy was satisfactorily accounted for.

Another example of this round-about connection of word and image is seen in an aversion to the word **demagogue** arising from the accompanying image of a monster. The subject said that for a time he always connected the words **demagogue** and **octopus** the latter invariably calling up a repulsive image. Later the word octopus, the middle term of the series, dropped away, leaving the image of the monster behind. Thus the demagogue, by a kind of poetic justice, became the victim of his favorite word.

Many images can be traced to unpleasant scenes or incidents in early childhood. **Delicate**, for one person, means a dirty, faded red, because a girl friend, whose dress was of that color, always spoke of it as "a delicate red." **Preamble** is hateful to a student because he read it in one of Burke's orations before he was old enough to understand it.

I have had a peculiar horror [says another writer] of the word **fled** since I was a very small child. I was once riding in the country with my parents when we passed a house which had recently been destroyed by fire. Upon asking where the people were who had lived there, I was told that they had "fled." Being ignorant of the true meaning of the word, I at once connected it with this scene of ruin and desolation. Whenever I hear the word now this unwelcome picture present itself.

As one might expect, the greater number of images are visual; but auditory, motor, and tactile images are not uncommon. **Salubrious** calls up the sound of someone smacking his lips; **relish**, of someone sipping coffee, or of a darky eating a watermelon; **masticate**, of pigs eating from a trough. **Mackerel** causes a pricking sensation in the skin; **peculiar**, sensation of curling and twisting; **got**, of the flesh being torn by jagged

instruments; **toothless** of having a tooth pulled; **acerbity** of drawing the thumb across the edge of a razor, The sound of the word **noodle** in **noodle-soup** makes the pieces of dough seem to writhe. **Snari** gives the sensation of snarled silk sticking to the fingers; **toothsome** makes the teeth ache (possibly from association with candy).

The only word [writes a young man] which gives me what some would call "the shudders," that I call to mind just now, is the word **groin**. When I see it in print or hear it pronounced, I have the same feeling one would have when listening to to the graphic description of an operation where it is necessary to scrape the bone. If anyone were to tell us of such an operation, no doubt we should say "I can almost feel it." That is just the way the word **groin** affects me. I can almost feel it, and the peculiar part of it is that the sensation always places itself in my left hip.

The first time I ever saw the word was years ago in a newspaper article about a murder, and it told how the pistol ball entered the groin, etc. I am naturally very easily disturbed by the graphic description of any injury, and as I read it I can almost feel the pain myself; but this seemed to especially affect me; so that I never see the word now, but that I experience a peculiar and disagreeable sympathy which has made me feel a perfect abhorrence for the word. This was not due to my knowing anything about the groin as a part of the anatomy, for until today, when I looked it up, I hadn't the slightest idea where the groin is located. Therefore, I attribute the peculiar sensation the word gives me more to its sound than to any association.

Early misapprehension of the meaning of the word is responsible for several antipathies. Thus one subject for many years was under the impression that **futicle** was a disease of the skin. Another thought that **the deceased** referred to a person who had died of some loathsome disease.

A majority of the reported antipathies are individual, that is, they are shared by the remainder of the writers. A considerable number are shared by from three to twelve or fifteen. Only a few words rise to the dignity of public nuisances.

Of these the most interesting is perhaps the word **victuals**. Of the two hundred and fifty persons, eighty-one, or about one-third, report a strong antipathy to this word. In ten cases the aversion is so great that the sound of the word at table takes away the subject's appetite. In investigating the reasons for this antipathy, I made in the case of one student a curious discovery. Having exposed before him for a second or two a card bearing the word in question, I noted that he made no objection to it; but later, when I expressed surprise that he had accepted the word **victuals** without comment, the young man started. "Vittles," he exclaimed with a visible recoil. "I detest the word." "But you didn't say so when I showed it to you." "But I haven't seen it." I drew out the card and placed it before him. "Oh, vic-tu-als," said he. "That word's all right." It appeared that although the two words had long existed as antonyms in his vocabulary, he had never before discovered their relationship.

Of the total number who feel an antipathy for this word, four reject it because of the parasitic spelling **vittles** or **vittals** eight dislike the sound, thirty-seven are subject to unpleasing images, and twenty-one are unable to assign any satisfactory reason. The images aroused are worthy of enumeration. Ten saw a mixture or conglomeration of various kinds of food; three cold boiled potatoes four, bits of cold food. Other images were of unclean food, food for animals, food in a garbage pail, a string of sausage, a table loaded with unappetizing food, and partly masticated bits of food in the mouth of an untidy person.

Several of the subjects ventured the opinion that the word was never used at all by educated people.[1]

The hypothesis upon which I explain the origin of verbal taboos will now be easily guessed. Suppose that in childhood some one has received, from any cause, a strongly unpleasant impression of a word. Suppose that when he grows up his natural aggressiveness of dispostion, combined, it may be, with the elements of vanity and self-righteousness which are the endowments of all of us leads him to assert his own preferences and override those of his fellows. Suppose, finally, that such a person has natural gifts and industry and inclination to scholarship such that he attains to a position of some eminence and acquires the standing of an authority. If we suppose all these things to be true, and the supposition is by no means violent, we shall have no difficulty in imagining such a person as endeavoring to impose his private aversions upon the entire community. We shall not go far astray if we think of Mr. White and Mr. Tucker, and the editor of *The Verbalist*, as saying to the public, I don't like these words; I never did like them. Therefore, *you* shan't like them, or at any rate shan't use them."

If this hypothesis be correct, we can explain by it many interdictions which otherwise would be wholly mysterious. For example, Professor A. S. Hill, in his *Principles of Rhetoric*, lays a ban

[1] I may note at this point an aversion of my own that is shared, I find, by others to whom I have mentioned it. I do not like the word s-q-u a l-o-r. If pronounced "squaylor," it suggests, in any connection, the squealing of a pig; if pronounced "squahlor," it suggests a squalling infant.

as I have said, upon the word **launder** in the sense of **wash and iron** on the ground that it is a vulgar substitute for an expression in good use. Now this verb, to **launder** has been in good use in the english language for at least three hundred years. It is used by Shakespeare, by Scott, and by Swinburne, and, as far as I know, no one from the time of Queen Elizabeth down to the date of the appearance of Professor Hill's textbook has ever uttered a word of protest. Why did Professor Hill endeavor to taboo it? I do not know positively, but I can make a guess.

As it happens, certain members of my classes who know nothing about the history of the word, or the fact that any change has been brought against it, have for it, nevertheless, a strong antipathy. One student says that the sound of **launder.**

'suggests someone flapping clothes awkwardly in the water. The word seems to be closely associated with the verb **flounder**'.

Another writes:

'**Launder** is a pet aversion of mine. I would go a block out of my way to avoid its use. It seems to belong to a coarse, common sort of people. It has such a harsh sound to me that hearing it always makes me wince, as when chalk squeaks on the blackboard.

Whether this antipathy and other verbal antipathies existed in the mind of Professor Hill, I do not know, but I suspect they did. I submit, at any rate, that upon such a hypothesis we may easily explain the verbal taboos promulgated by him and by the other authorities to whom I have referred in the course of this paper.

What I have been trying to say may be summarized as follows:

In certain books that have appeared within the last quarter of a century, attempts have been made to place a ban or prohibition upon well-known and much-used English words and phrases. These prohibitions, which may be termed verbal taboos from their resemblance to the taboos of aboriginal tribes, are the outcome of antipathies formed in early years while the individual is acquiring command of speech. Such antipathies being due to the associations which naturally occur in the formation of the speech-habit are common to all persons; but in the case of most of us they are checked or repressed by a sense of deference to the feelings of others in the community. There are persons, however, in each generation who because they are exceptionally self-assertive and aggressive in matters of language, do not hesitate to impose their personal antipathies upon their neighbors. It is from these persons that verbal taboos proceed.

Another fact which such a study makes clear is the extreme complexity of the influences which give to words their accepted meanings. Words do not spring up in the mind with their dictionary values stamped upon them. Rather they are like irregular fragments torn out of the texture of our daily experience, trailing behind them threads of various lengths and various colors. At first each individual's mental concept of a word is as different from every other individual's as his experience is different. But the recurrence of the word in a variety of contexts and under varying conditions wears off the appendages and reduces the fragment to a conventional size and shape. If, however, in a particular case, some remnant of the old, misshapen context is tough, or escapes somehow the process of attrition, then the meaning of the word for this person is different from its meaning for others, and the result may be an aversion to it.

If, for any reason, the individual aversions coincide, the word, or some meaning of the word, becomes obsolescent. This seems to have happened in the case of the word **victuals.** An American dictionary-maker, intent upon reflecting current usage, would perhaps be justified in noting that the word victuals is *verbum ingratum* to a considerable number of readers, or at least that it shows an inclination toward the meaning "uninviting food in unattractive surroundings." I venture the opinion that to the majority of dictionary-users, such an entry would occasion no surprise.

THE 16TH. ORIENTALISTS' CONGRESS AT ATHENS.

BY IRACH J SORABJEE, CAMBRIDGE

Athens was en fete during the first week in April for there were three celebrations simultaneously—the Easter, the 75th anniversary of the Athenian University and the 16th International Orientalists' Congress. The weather conditions were the most beautiful that could be desired and during the days the Congress lasted—6th April to 14th April—we had a splendid sky and the heat in the middle of the day reminded one of India at about the same time.

Easter is a great celebration for the Greek Church. And all the people observed it faithfully. Athens has got numerous beautiful little churches. The buildings are very pretty little structures in the

1 The singular, victual, is not only inoffensive but even poetically congenial. In *Geraint and Enid* Tennyson uses it four times in close succession with fine effect, especially in the lines,

There came a fair-hair'd youth, that in his hand
Bore victual for the mowers.

Byzantine style. And some of these are very charmingly situated. But the true pomp and glitter of the day was concentrated at the Basilika of the metropolitan of the Greek Church. It is a big modern building and in it the metropolitan assisted by the other bishops and church dignitaries performed the chief service on Good Friday. Every church and chapel had its own service and every one of them was crowded. Greek churches do not seem to have seating accomodation for worshippers and on this day the crowds were very great and often owing to the heat and the crowding people fainted and had to be carried out. The service was a pretty long one and most of it was chanting done by the priests assisted by a choir of men and boys. In the middle of the chants (which reminded one of the chants of the Vedic mantras or of the Parsi Dasturs reciting) the Metropolitan entered clad in gorgeous robes of gold and purple. He is a mild fatherly looking old man with a certain pleasing dignity about him. After worshipping at the central altar he went round the church among the crowd twice, offering the congregation incense and sprinkling on them the holy water. By this time the whole church was full of the important people of Athens; officers of the government and of the army and the representation of the various foreign governments and the professors of the university. At the completion of the service from each church came out a procession representing the death of the Saviour and the carrying of his bier to the Holy Sepulchre. It was an impressive sight to see these processions going through the street with bands playing funeral marches, the priests chanting dirges and the spectators lining the routes in solemn stillness each with a lighted taper in the hand and making the sign of the cross as the bier passed. All that day flags remained half mast all over Athens. The next day came the celebration of the Resurrection. Similar processions passed through the streets late at night and the service was conducted at midnight. At the stroke of twelve all the bells rang out in joyful chorus to announce to the world that the Son of God had gone to his place in heaven and pealed forth the message of peace on earth and forgiveness to the sinner. Rockets were fired from far off from the ships in Piracus harbour came the booming of the ships, guns firing the salute.

The Congress and the Jubilee celebrations began simultaneously with the state opening at the Acropolis performed by the King in person. In that most beautiful spot, so full of the proud and glorious memories of the past, all who assembled there could not but feel a thrill of joy. That we should take our places on that sacred hill where the mighty ones of old had trodden was in itself felt to be a privilege. It was a glorious assembly representing the best talent of Europe doing homage to the glory of Greece, the spiritual mother of the West and the glorious sister of ancient East. A truly international gathering it was, for every important seat of learning in Europe and America had sent her representatives to convey their congratulations to the National University of Greece. The key-note of the gathering was struck in the opening address of the Crown Prince when he said "The spirit of humanity, of which you are the select representatives, has no country; but at this moment when we are all gathered round these undying moments of antiquity, you are all insensibly converted into Athenians like ourselves. Hence I call you "W L V D P E S" Adyvaioi. (Ho. andres Athenaioi), O ye Athenian men."

The Crown Prince's address was followed by that of the Minister of Education who traced the history of the University of Athens and showed how intimately the University was bound up with the rise of the national spirit in Greece. The University has produced all that is noblest and best in modern Greece and well were they all proud of it. The Rector of the University then gave a very eloquent address. Fortunately for the members of the congress we were provided with French translations of the speeches, for they were delivered in Greek.

Besides Greek three other languages were allowed being among the official languages of the Congress English, French and German. In the formal sittings however Italian was also allowed. Following the speeches of the official representatives of Greece came three speeches from three delegates in the three principal languages. Professor Collignon of the Paris University spoke in French first dwelling upon the international aspect of and the brotherly feelings inspired by the gathering. He took it to be a happy augury that the day was Easter Sunday and that for the first time in many years all Christian world the Greek church, the Catholics, and the Protestants were celebrating it on the same day. Professor Delbrück of Jena followed in a glowing German speech when he dwelt on the debt owed by Europe to Greece. Professor Mahapy was the representative of the English speaking delegates and he brought greetings from the far Northern-Isles whose people had always had a warm corner in their hearts for Greece.

The next day commenced the formal sittings of the Congress. There were eleven sections but unfortunately one of them—the Iranian—was utterly unrepresented. One section was entirely for the Greek aspect of Oriental studies. The President of the whole Congress was the venerable Count Gubernatis the famous Italian Sanskritist from Rome.

But before the actual sittings of the Congress began in the great University Hall there was another very interesting function which took place there.

That was the presenting of addresses and greetings from all over the world to the University of Athens. It was a memorable gathering as one well known professor after another walked up and presented the address from the University or the learned body that he represented and made a short speech. Count Gubernatis made an eloquent and poetical speech in Italian and was vehemently cheered. The delegate of Egypt H. E. Prince Ahamed Zeki Pasha, spoke splendidly of what the relations between Greece and Arabia were and how the Arabs had kept lighted the torch of learning which they had received from the Greeks when the rest of Europe had not been ready enough to receive it. Sir Donald Macalister —a name familiar to many in India, made a hearty and thoroughly British speech on behalf of the Universities of Great Britain. The delegate from Japan, Mr. J. Takakusu, was also very warmly received. Perhaps the most unfortunate incident of the Congress was that there was no official representative from India present there. They had been appointed and their names were on the list but they were prevented through various reasons from coming to Athens and so there was no spokesman from India present on that solemn association.

The first and the last sittings of the Congress were for all the sections together. The first paper read was by H. E. Prince Ahmed Zeki Pasha of Cairo on "the homage rendered by the Arabs to the Greek genius." As it was getting late only a few papers were read that afternoon, the most interesting among these was of Professor Chavannes on "the sepulchral and Buddhistic sculptures of China." It was illustrated with lantern slides. One picture of a carving from a tomb showed a game something like the modern football. The Buddhist cave temples and sculptures were very remarkably like those in India. There was a perfectly exquisite figure of the Lord Buddha and also there was a splendid group representing Buddha leaving the palace at midnight in answer to the Great Call of Humanity.

On Tuesday morning the separate sections met. In the Indian section Professor Rhys Davids was elected President and the first paper was on the Greco-Roman notions of Oriental Geography. It was illustrated by maps copied from manuscripts by the learned teacher Professor T. L. Pulle. The other papers read in this section were highly interesting. Among the most notable was one of Professor Formichi (which name by the way is a literal translation of the Sanskrit Valmiki) on his italian translation of Asvaghosha's Buddhacarita. He spoke in Italian and his rendering of certain passages aroused a very lively discussion. Professor Lüders of Berlin made some remarks in German criticising the Italian renderings and suggested some emendations of the text. The lecturer then replied in French and the President closing the debate called for the next paper in English. Such was the delightful Internationalism which pervaded through the whole congress. Dr. E. Kuhn spoke about Demetris Galanos the famous Greek Orientalist who lived in the early part of the last century. He spent many years in India, in Benares and elsewhere, chiefly among the Pandits, and he learnt Sanskrit well enough to be able to converse with them. He translated numerous books into Greek, among them was the Bhagavad-Gita. Professor Macdonell of Oxford gave an account of the work he had done at Oxford since the last congress at Algiers in 1908 and gave also highly interesting account of Collection of Sanskrit manuscripts at Oxford from the earliest beginning—one manuscript in "Gentue Script" which was presented early in the 17th century—up to the latest gift of the Maharajah of Nepal consisting of over six thousand manuscripts. These consist of works of almost every conceivable subject in Sanskrit literature. There are general texts of the epics and at least one complete one and a good number of the Vedas —all the vedas and their various branches being represented. There are also some works whose names are not even known. Of course all this information is the result of mere cursory examination. The work of cataloguing them is proceeding rapidly. These manuscripts were the property of a Brahmana in Benares, who had lost his wife and family and wanted to give up the world and to retire. So he accepted Rs. 10,000 for the collection and went away from the world of Maya. The money was given by the Maharaja of Nepal at the suggestion of Lord Curzon to whom Professor Macdonell had communicated his discovery. Professor Rhys Davids gave an account of the work of the Pali Text Society and brought in a resolution of thanks to the Ceylon Government for the generous help they had given in publishing the work of the Society This resolution was seconded by Professor E. J. Rapson of Cambridge and supported by Professor Lüders. It was subsequently brought before the complete sitting of the congress and was passed. The example of the Ceylon Government is well worth imitation by the other authorities. Dr. F. Otto Shrader, who is well known in India as the Librarian at Adyar, gave his interesting paper on the Shashtitantra. By means of tables he compared the contents with those of other philosophical books and drew some very interesting parallels between that and the Sankhyakarika. Dr. D. Andersen of Copenhagen gave a textual criticism of some of the Jataka verses and Professor Hultich

of Halk gave a very interesting paper on the interpretation of some sculptures from the Bharut Stupa in the light of the Jataka stories. Dr. Jolly of Wurzburg read a short but interesting paper on the Arthecastra and spoke of the need of further work in the subject. Professor Ballini of Rome gave an account of three years work among the Italian Orientalist and presented some works to the congress.

The moslem section was presided over by Professor Goldzicher of Buda Pesth. There were some very interesting papers. Name Olga de Lebedew from Cairo read an interesting paper on Sufism. The paper of M. Henri Lammens was interesting in as much as he gave an entirely new origin and significance to the word "masjid." The idea is so new and strange that it would be best to wait till the whole paper is printed before passing any criticisms. There was also a paper by Professor Becker on the light thrown on Islam by the African expedition of H. H. the Duke Adlof Friedich of Meklenburg, and a very interesting paper by H. E. Prince Ahmed Zeki Pasha on the genesis and development of the moslem art. Professor Margoliouth spoke about Yakut's Dictionary of learned men.

In the Philology section there were some interesting papers though the greater part of them were too technical. There was a nice paper by Mr. H. Barques "On the origin of the Alphabet" and one by Dr. E. Liden on the words in the Tocharish language. This is the latest language to be identified in the Indo-Germanic family of languages. It was discovered during Dr. Stein's late researches in Central Asia and there is a rich literature found and is being deciphered.

On Tuesday there was an excursion to Eleusis and students of the various archaeological societies conducted the delegates of the Congress over the vast ruins of the great temple of Demeter which was the home of the Eleusian hysteries. There is an immense lot of material here to interest student of archaeology and antiquities.

In the Royal theatre a performance was given in modern Greek of the Odipus Rex of Sophocles and the costumes and stage effects were much admired. There was also national games held at the Stadium, an immense amphitheatre built in white marble capable of holding quite 50,000 people and the victors were crowned in the old style.

Besides these there was the wonderful illumination of the Acropolies with what is known in Germany as the "Bengal fire." The majestic ruins of the citadel standing out in lights of various colours against the black velvety background of the sky made a splendid picture. This was followed by a torchlight procession of the students through the town.

There were numerous parties and social functions. One garden party was given by the students at the Zappeion which was a great success. Some of the popular Professors were cheered all along the way by their students and accompanied by a troop of students singing national songs. The evening party given by M. Lambros the Rector of the Athens University was a great success and so also was the reception at the Royal palace.

The seat of the next congress has not yet been decided and a committee has been appointed to consider the matter and to report.

I. J. S.

THE PEDAGOGY OF THE HINDUS—V.

BY PROF. B. K. SARKAR, M.A.

CALCUTTA.

THE EDUCATIONAL INSTITUTIONS AND MESSAGE OF ANCIENT INDIA.

Of course it is idle to look for answers to these queries in the annals of Classical Pedagogics. Mediæval and Modern Europe also are not competent to discuss these problems and investigate these questions. The young civilisation of America would simple clap on the back of this system in a patronising air as the product of a simple arcadian society. There is only one country in the world which ever tried to solve this vexed question and solved it satisfactorily. It is India. The pedagogic system that was discovered in India had no need to harmonise the conflict between faith and culture, did not consider the study of theology to be an essential factor in religious education and did not feel the necessity for the constitution of Faculties, Boards and Committees, the formulation of rules and regulations, and the appointment of Hostel-Superintendents to promote the spiritual interests of the pupils.

One may naturally ask—why has that peculiar gift of India been decadent, if not extinct? What has led to the practical abolition of the particular discovery, that national contribution of India? Was that system inadequate to supply the needs of the Indians? Could it not meet the requirements of the Indians according to their national traditions? Had not, under that system, new branches of learning, new arts and sciences, new topics of philosophy been studied and investigated with changes in the culture and civilisation of the people? Did it not make ample provision for change and modification in treatment, courses of study and methods of inquiry according to differences in language, physical surroundings, and

aptitudes of pupils? Was that system essentially monastic and ascetic, and did it kill all secular and social instincts of the learners? Did the *Brahmacharis* come back from the preceptors' homes merely as monks, missionaries and *sanyasis*? Could they not satisfy the diverse material wants of man? Did they not know how to provide for the 'necessaries, comforts and decencies' of life? Was the education absolutely non-political? Did not the students learn how to help in the administration of the state? Were not social and political sciences, plant life and dissection of animals, physical phenomena and chemical manipulations among the courses of instruction?

How otherwise could there have been so many socio-religious transformations and revolutions in India? How otherwise could so many races of men be mixed up and assimilated in the general Indian community? How else could such a vast society be built up obeying the same *Sastras* and following the same codes of morality and religion? How else could the masses of this huge continent learn the arts of civilisation, acquire the principles of morality and social etiquette, and adopt the manners and customs, religious rites and ceremonies, mythology and literary ideals of an enlightened people? How else could a new spirit be imparted to the lower strata of the society at every epoch, and a new ideal be propagated so as to be the prolific mother of new languages and literatures, new mythologies and demonologies? How otherwise can we account for the rise of the numerous *Puranas*, *Samhitas* and *Tantras* adapted to the needs of the people in different ages and provinces? How else can we account for the remarkable progress of the nation in architecture, sculpture, medicine, dyeing, weaving, shipping, navigation, military tactics and implements and all such aspects of socio-economic and economico-political life as have to depend on the help of physical and natural sciences? How otherwise could the people of Bengal and Madras, Maharastra and the Punjab consider themselves to be kith and kin, members of the same socio-religious organism even in spite of differences in language, manners, etiquette, ceremonies and costumes, at a time when there were no railways and steam presses to shorten time and space?

These facts lie on the surface and tell their own tale. There is, besides, Logic to prove that the system of education that obtained in India was exceedingly capable of re-adjustment, modification, expansion and development according to the exigencies of clime and time. And there ir History to bear testimony to the fact that the educators of India built up a pedagogic system which could move, grow and progress, incorporate, assimilate and influence. It was because of this marvellous *elasticity*, this extraordinary power of adaptation and growth that the domestic schools of the ancient Indian villages could anticipate the position of Berlin, Oxford and Moderan American universities as the schools of the whole civilised world of the time, that the villages of India could long remain the intellectual capitals of the globe. It was because of the manysided development the pupils received under the system that the arts, industries and commerce of the people of India not only supplied the wants of the community at home but were the principal sources of revenue to the national exchequers by supplying foreign peoples with Indian articles of comfort and luxury. The graduates trained up under the domestic system were competent enough to found and administer states, undertake industrial and commercial enterprises; they were builders of empires and organisers of business concerns. It was because of this all round and manly culture that the people of India could organise vast schemes of colonisation and conquest, and not content with being simply confined within the limits of India, could built up a Greater India beyond the seas and spread culture, religion and humanity among the subject races. It was because of their mastery over the principles of Psychology and Sociology that the leaders of the community never neglected the superstitions, the mechanical rites and ceremonies, the diverse practices and usages and the various religious customs and mythological notions obtaining in the country, but rather promoted the growth and development of a varied mythology, a varied eschatology, and a varied religious system according to the varied geographical and historical conditions of the people. It was under the influence of this system of education, again, that the ideal Hindu King "protected himself, but not through fear; followed the dictates of religion, but not through remorse; realised revenues, but not through greed, and enjoyed happiness but not through attachment." And it was because of this man-making pedagogic ideal that India has never been deprived of men and women who may be ranked among the greatest specimens of humanity That system certainly can not be dismissed as inexpansive, inert and unfit to survive that could produce *Rishis* from *Vasistha* and *Viswamitra* to *Ramprasad* and *Ramkrishna*, scholars from *Panini* and *Chanakya* to *Chandra Kanta Tarkalankar*,—a race of eminent women from *Maitreyi* to *Ahalya Bai* and *Rani Bhavani* and monarchs from *Chandragupta* to *Sivaji*, and has continuously kept up the genial stream of national culture and civilisation through diverse forms and agencies by giving rise to hosts of thinkers and actors capable of solving different problems in different ages

THE MISSION OF NEW INDIA.

And India is still maintaining her peculiar race-consciousness and continuing the tradition of her particular national spirit in order to be able to educate modern mankind according to those pedagogic ideals. Even in those countries of the enlightened world where Primary Education has been made compulsory and free so that the limits of literacy and population can coincide, the statesmen and educators require to be guided by Hindu educational principles in the best interests of their national culture and character. In fact it will be the mission of Modern India to keep intact the spirit and genius of her civilisation and influence by her message and philosophy of life the Agricultural Colleges of America and the Polytechnic Institutes of Germany.

The Hindu system is certainly not yet extinct but is passing through what may be called a state of paralysis and hypnotic swoon for want of appreciation. That has to be revived and re-established in India. There is, of course, no doubt that modern civilisation has developed one or two characteristic products, but these are not altogether foreign to the spirit of Indian civilisation. In fact the system that has been able to assimilate and incorporate so many things through so diverse epochs will not hesitate to accept these factors of modern life and 'utilise' these novel conditions in the way best suited to itself.

We are in sight of new industries and commercial methods, we have been witnessing the influence of Railways and Steam Engines, Printing Press and Electricity, we are being habituated to ideas of self-government and national unity, but these new conditions of life would not certainly overpower the spirit of India. India is not to surrender herself to the aggressive force of these engines of civilisation, the Hindu is not to lose his identity and individuality under their influence and will not deprive humanity of an important contributor to its culture by being a mere echo of the westerner. On the other hand, the Hindu will accept the Printing Press and Railways and assimilate the ideals they imply—not, however, to add to the miseries of life by contributing to the inequality, rivalry and struggle for existence, but to be able to speedily Indianise the whole civilisation of modern man and to quickly flood the nations of the world with idealism, spirituality and mysticism. The Hindu will, under the stimulus of foreign intercourse, develop more intensely the industrial and commercial aspects of his civilisation, will pay, greater and greater attention to the cultivation of the physical and technical sciences—not, however to be a slave of the material enjoyments of life, not to be overpowered by the flesh and the world but to discover novel methods of self-sacrifice and philanthropy, to devise fresh means for the display of self less activity. The Hindu will love his fatherland in the sense that the European and American love theirs, will maintain the separateness and independence of his national culture—not, however, to encourage jealousy, hatred and strife, but to justify the varieties and types of human ideals and to display the infiniteness of God's manifestations. The Hindu will adopt the scientific methods of administration, not, however, to be westernised, not to frame all social rules and regulations on the model of Europe and America, but by applying catch-words of western science to demonstrate to the world that *love, reverence and renunciation may be successfully combined with science, self-government and democracy.*

We will demonstrate that Equality is not an apology for hiding real inequalities and self-aggrandisements, and that Inequality is not necessarily a hindrance to real equality, love and fellow-feeling. It will be our mission to prove to mankind that it is possible for an individual to give up all worldly cares and anxieties and live a life of contentment and solitude after one of real absorption in the secular interests of the world, that it is possible for man to maintain his faith and reverence even while undertaking scientific investigations, and that it is possible for a man, who has been in the householder's stage a political leader or a social dictator or an organiser of economic concerns, to adopt the retired life of a *Muni* in old age and wait for passing away by practising *Yoga*.

It is for the propagation of this message that the Hindu is still alive. The mission of the west to India will be fulfilled when that message will have been heard by the larger world, and mankind has been Hinduised. For it is then only that a a new culture, a new life and a new civilisation will be born which will share in the best products of both the Eastern and Western ideals of existence. We can, therefore, never too often repeat that modernisation of India does not mean the bringing about of a second-rate or third-rate Europe or America, a thorough westernisation, but the display of her own spiritual strength, her own mystic spirit in the new atmosphere, the establishment of the supremacy of her own transcendental ideals of life under the new conditions of science and democracy.

The desire has issued forth from the heart of mankind—Instruments and Agencies will not be wanting

RAMA'S LAMENT.

(When his wife was carried off by the giant Ravana. From the Ramayna).

TRANSLATED BY ARTHUR W. RYDER
CALIFORNIA U. S. A.

They say that as the seasons move,
Our sorrow gently fades away:
But I am far from her I love
And sorrow deepens every day.

That she is gone, is not my woe;
That she was reft, is not my pain;
The thought that agonizes so
Is this; her youth is spent in vain.

Blow, breezes, blow to her dear face;
Blow back to me her kisses sweet,
Through you we taste a glad embrace,
And in the moon our glances meet.

When she was torn away from me,
"My lord! My love!" was all her cry,
Which tortures me incessantly;
My heart is poisoned, and I die.

I burn upon an awful pyre;
My body wastes by day and night;
Her love is fuel to feed the fire
That burns so pitilessly white.

If I could leave each loving friend,
Could sink beneath the sea, and sleep,
Perhaps the fire of love would end,
If I could slumber in the deep.

One thought consoles my worst distress:
Through this I live; I cannot die
While she lies down in loveliness
Upon the self-same earth as I.

The sun-parched rice, no longer wet,
Lives on, while earth her moisture gives;
The root of love supports me yet,
For they have told me that she lives.

Though giants hem her round, yet soon
She shall be freed, and shall arise
As radiantly as the moon
From clouds that darken autumn skies.

When shall I pierce the giant's breast
With shafts that suck his life away,
That give my tortured darling rest
And all her absent griefs allay?

When shall I feel the close embrace
Of my good goddess, as in dreams?
When kiss her smile, while on her face
The water born of gladness gleams?

When shall I pluck from out my heart,
A heart by woes of absence torn,
The pain of life from love apart,
Forget it, like garment worn?

A. W. Ryder.

FOR STUDENTS

ROMANTICISM

Before starting with the literature of the Romantic period it would not be out of place to sift Romanticism with regard to its genesis etc., one would not be far wrong in saying that this awakening has very much to do with what modern Europe thinks and feels.

The title of this general awakening has been subject of criticism and suggestion. "Revival of Romance," "Return to Nature," "Renascence of Wonder," has each had its champion and its opponent, and, in all cases, a sturdy one.

Regarding the true nature of Romanticism, I cannot do better than borrow from Dr. Herford's *Age of Wordsworth*:

"Primarily it was an extraordinary development of imaginative sensibility. At countless points the universe of sense and thought acquired a new potency of response and appeal to man, a new capacity of ministering to, and mingling with his richest and intensest life. Glory of lake and mountain, grace of childhood, dignity of the untaught peasant, wonder of faery, mystery of the Gothic aisle, radiance of Attic marble,—all these springs of the poet's inspiration and the artist's joy began to flow, not at once but in prolonged unordered succession; and not within a limited area, but throughout Western Europe, and pre-eminently in Germany, England, and France.

"The word Romance, hackneyed and vulgarized as it is, expresses less adequatetly than any other the kind of charm which these heterogenous sources of poetry exercised in common. They were all, to begin with *strange*; ways of escape from the pressure of the ordinary modes deliverance from the dead weight of routine. But the romance of which poetry is begotten can never be merely strange. It has a subtler fascination, which rests partly upon wonder, but partly also upon recognition. For its peculiar quality lies in this, that in apparently detaching us from the real world, it seems to restore us to reality at a higher point, —to emancipate us from the prison of the actual, by giving us spiritual rights in a universe of the mind, exempt from the limitations of matter, and time, and space, but appealing at countless points to the instinct for that which endures and subsists. To rekindle the soul of the past, or to reveal a soul where no eye had yet discerned it; to call up Helen or Isolde, or to invest lake and mountain with 'the light that never was on sea or land,' to make the natural, as Wordsworth and Coleridge put it or the supernatural natural,—were but different avenues to the world of Romance. How was this

world, thus disclosed by imagination, related to the world of the senses, the world of common-sense, in which the mass of men contentedly moved? The current philosophy of the eighteenth century made short work of such questions. It reduced reality, in the last resort, to sense impressions, and the 'ideas' which reflected them. But the Romantic spirit, ardent, full of the zest of discovery, and striving to grasp the height and the depth of the new earth and new heaven which had swum into its ken, could tolerate no such answer. In every direction current beliefs and current institutions forced the Romantics to formulate their own ideals with results which told sometimes for reaction, sometimes for fierce intervention in affairs, some times for quiescent or scornful seclusion from them, but never, even in a Scott or a Keats, permitted complete unconcern."

Romanticism, says Charles Edwyn Vaughan, was not a mystical adoration of Nature as symbol of God (e.g., Vaughan and Herbert); it is not a blithe delight in nature for her own sake as the Elizabethans manifested. The most marked characteristic of romantic poetry, continues Vaughan, is that "it is the first stage of the gradual transfusation of the spirit of man into outward nature and vice-versa."

This general emancipation of thoughts and ideas was the outcome of Rousseau's social contract a theory by which the great French philosopher attempted to recast society on the principle, that every man has a natural and inalienable right which is equal to that of every other man. The propagation of this theory, combined, no doubt, with other causes, is responsible for the great upheaval of 1789 in France, which resulted in a complete annihilation of the then existing social and political institutions of France, carrying with it the mode of human thought, as much in as outside of it, in an absolutely new channel. This enfranchisement was also the result of the transcendental philosophy of Kant, which started a movement in Germany, extending up to the movement of Hegel's decease in 1831. Kant's "fundamental achievement was to demonstrate that experience is not, as Hume thought he had shown, a stream of isolated sensations, but a totality, united by self-consciousness, and formally determined by the nature of the thinking subject." This system of philosophy found a common platform whereon the ideal and the real met together towards attainment of human object.

This love of naturalness also entered the region of politics and of society. "Side by side with the return to Nature in poetry," says A. J. Wyatt, "there was a movement initiated by Rousseau for a return to nature in social life, a movement of which the French Revolution was in some degree at least, the outcome." "It is curious to note" continues the same learned author "that the poets of the early nineteenth century were drawn without exception into the romantic vortex, in some cases doubtless in spite of themselves, and to observe how they were severally affected by the political movement. The poets struggled to freed themselves from the bondage enforced by Pope, and so in politics, people did no more appreciate the fast-bound conservatism, but desired to bask in the sunshine of the ideals of Liberty, Fraternity, and Equality—the watchwords of one of the greatest revolutions in this World.

"In England," says Dr. Herford, "the autocracy of individual imagination, less loftily announced in theory, was even more energetically and triumphantly asserted in fact." Romanticism in England meant something more than the ordinary significance of the term. The English romanticists, led by Wordsworth, Coleridge, Shelley and Keats, felt an ecstacy over external nature and interpreted her as having a connection with Men—a sort of sympathy existing between Man and Nature. With this subtle interpretation of Nature, the English Romantics joined in an admiration for the supernatural. They were madly in love with the romantic impossibilities. They coniured up lovely visions and hugged them. What can be a greater absurdity than the subjects of Coleridge's *Ancient Mariner* and *Christabel*, but what can, at the same time, be more charming than the following passage in *the Ancient Mariner*.

"The sun's rim dips, the stars rush out;
At one stride comes the dark;
With far-heard whisper, o'er the sea,
Off shot the spectre—bark"

In the poem just alluded to, there is a weird story interspersed with glorious and fascinating descriptions of natural scenery.

To be brief, these Romantics met at the region where "Romance and Nature meet—in which imagination bring us nearer to the heart of reality by apparently deserting it; the region which Coleridge enters when he arrays the dim horror and fascination that the unknown ocean inspires in a phantom garb of poetry to fit it; or Wordsworth, when he renders those mysterious suggestions of earthly presences—Fear and trembling Hope, and Death the Skeleton, and Time the Shadow—which have always hallowed the shade of great trees, or Keats when he renders the enchantment of the nightingale's song thrilling through "Casements opening on the foam of perilous seas in fairy lands forlorn."

These poets suffered from one defect. Man exists in his two aspects. One is his spiritual side by which he is sought to be identified with the Diety; the other is the material side, which explains the fact by which he lives, moves, and has his being, and on which depends his organic existence. Both these sides are essential for Man's being on earth. But while the English romantic poets appreciated

the ideal side of man, they overlooked his realistic side. Man, as a part of the mysterious spirit world is the burden of their poems; man, as a denizen of the physical world, "with all its imperfections on his head" is nowhere.

This romantic tendency may, however, be explained as a reaction of the preceding classic age. When fancy wandered wild, when it created regions of its own, absurd and fantastic, when no law was respected, it was the work of classicism to check the flood, and keep it within proper barriers. So long as Romanticism, in spite of its impetuous nature, did keep within judicious limits, there was no call for the classicists. But when it ran amok, degenerating liberty into license, fancy into phantasy and mystery into mysticism, classicism interfered and opposed its rationality, understanding, refinement, and temper against the super-exuberant flow of Romanticism. But classicism, in its turn, degenerated into the merest dead routine and formality, without a spark of life, throbbing in the outwardly beautiful structure. And comes in romantic writers, to neutralize the evil. So that it will be observed that Classicism and Romanticism follow each other in a natural cycle.

But there was an essential distinction between the Elizabethan and the Romantic literatures. The former was the age of drama and the latter of novel. Against the renowned plays of Shakespeare may be pitted the famous novels of Sir Walter Scott. That is all the difference. To say this is to mean, however, that the Elizabethan age is one of action, and the Romantic was one of introspection and analysis. During the former, the world around demanded work, not meditation. They had to make their own by their own efforts. They did not inherit any tradition, but had to follow impulse. But the earlier nineteenth century romantics had a glorious past on their back. The work activity was no more required of them, because much of that was before them to be looked into. They might now devote themselves to the study, criticism and dissertation of the immense and rich treasure they had collected. With an array of noble examples before their eyes, these did not feel themselves called upon to be guided by impulse; they worked under mature deliberations, and after sifting and examining the many facets of the thing. Hence, such an enormous output of critical literature in this period, subscribed by Hazlitt, Lamb and Coleridge, no less by others.

A J A X.

REVIEWS
AND MINOR NOTICES.

Second State Inorganic Chemistry, by G. H. Bailey. D, sc. (Lond.) PH. D. (Heidelberg). University Tutorial Press Ld. London. 4s. 6d.

This companion volume to the author's 'First in Inorganic Chemistry" is quite up to date. The metals and their chief compounds have been considered in the order suggested by the periodic system, and prefixed to each group a summary of the chief characteristic properties of the group, will be found; this arrangement will enable the student to grasp most readily the principal facts relating to the metallic elements. The book together with the author's elementary work provides a course which would meet the requirements of the Intermediate examination of the Indian Universities.

New Junior Latin Course, by J.V. Thompson M. A. and I.I. M. Penn, M. A. University Tutorial Press Ld., London. 3s. 6d.

This book seeks to provide a Course in Latin Grammar and Composition for use in Schools. It is suitable for the candidates preparing for the Junior Locals and similar Examinations. The novel feature of the book is that an oral exercise on each passage is supplied, so that thepupil may be encouraged to look upon Latin as a medium for the expression of thought and not merely as a convenient school exercise. In this way, the authors say, they seek to combine the best modern methods of Linguage teaching with those which have stood the test of generations.

New Junior Latin Reader. A. J. Tate, M. A. University Tutorial Press Ld., London. 2s

The object of the Reader, as the author declares, is is to provide a graduated course of lessons in translation from Latin to English for pupils from 13 to 15 years of age. Then book consists of three parts. The first consists of easy extracts into sentences and then printed again as continuous passages in order to illustrate the structure of the Latin Period. The second part consists of more difficult extracts, chiefly from authors of the classial period. The third part consists of more difficult extracts given out without modification.

Quatre Contes, par Proper Meritmee, edited by F. Victor Massard. (Rivingtons, London) 1s. 6d.

This book belong to the Senirs of French Readers which is to provide students who have been taught according to the *New or Direct Method* with Readers based on the principles of that method. The texts are chosen from the best authors of the last century and are of two Series a *Junior Serie* and a *Senior Series* The Readers of the *Junior Series* are provided with a French English vocabulary.

Highroads of Geography. Bks. 4th and 5th (Thomas Nelson and Sons, London). Price Bk. IV — 1s. 6d., Bk. V—1s 6d.

This is a series which would serve the purpose of a Geographical Reader to young learners. Book IV deals with the continent of Europe and consists of 288 pages and 16 coloured plates. Book V contains 336 pages and 16 coloured plates and treats on Britain Overseas. The books deal with the subject in a decent narrative way so that it is suitable for every boy or girl. The get up etc. of the books are really more than can be expected from the price.



PUNJAB UNIVERSITY SENATE HOUSE—LAHORE.

By [illegible] Secretary to Government of India Education Department.

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AND PROGRESS OF INDIA.

CALCUTTA, TUESDAY, DECEMBER 31, 1912.

Now that the question of moral and religious education has come up before the public as an item of 'practical politics' the following extracts from Prof. B. K. Sarkar's *Educational Creed* would be found interesting especially to those who have been appointed on the committee for studying that question.

Moral and religious education according to Prof. Sarkar's Educational Creed.

1. *Moral Training* to be imparted not through lessons culled from moral and religious text-books, but through arrangements by which the student is actually made to develop habits of self-sacrifice and devotion to the interest of others by undertaking works of philanthropy and social service.

2. To build up character and determine the aim or mission of life (*i*) the 'design', plan and persona responsibility of a single guide-philosopher-friend and (*ii*) the control of the whole life and career of the student are indispensable. These circumstances provide the *pre-condition* for true *spiritual education*."

The professor has discussed the whole problem in a paper, *The Pedagogy of the Hindus* which appeared serially in our columns. According to him the religious and moral education that can possibly be given in schools established in India on the model of the ordinary Day Schools or Boarding Schools of the west is "mainly a branch of intellectual culture"—nothing but a more detailed and *specialised* study of the *history* and *philosophy* of the people. Says he "It is only the brain that is developed and the *mental* faculties that are exercised, the powers of thinking out and analysing historical and philosophical problems that are invigorated and strengthened,—or at best the *social* aptitudes and public spirit that are fostered by submission of a pupil to this sort of training in theology * * * * The difference between the so-called religious education and ordinary education is at best one of *degree* only." Again, "the residential system may, no doubt, add to the opportunities for social intercourse between

the teacher and the taught, but as discussed above, social life is not necessarily spiritual life." Further more, "the conversion of examining Universities into teaching ones would certainly change the character and type of the educational institutions and is likely to raise the standard of intellectual culture and improve the methods of teaching and examination, but is not at all calculated to foster and develop the *desire for self-sacrifice* and *culture of the soul*." "The long and short of all, is—that no official methods, no 'school' system can effect the work that is contemplated. Real religious training, therefore, cannot be imparted in schools and Universities as generally understood."

Prof. Sarkar is thus like Principal Paranjpye very sceptical about the introduction of religious education into schools and colleges—though for different reasons. We recommend the Professor's constructive programme as suggested in the paper that has been recently published to our readers for perusal. He has grappled with the problem from an altogether novel stand-point and has marshalled his learned arguments in a masterly style.

The Report of the Dacca University Committee

The report of the Dacca University Committee, has just been published. It covers 300 pages and contains 26 chapters, five supplementary minutes by members of the Committee, 13 appendices, and 35 illustrations. It is proposed that the Dacca University shall include the following Departments:—Arts, Science, Islamic studies, Law, Engineering, Medicine and Teaching. Detailed suggestions respecting each of these Departments are made. The estimated expenditure of the new buildings is Rs. 32.36 lakhs. Sanitary fittings absorb Rs. 2.44 lakhs; furniture etc. Rs. 1.30 lakhs; equipment, libraries, laboratories etc. Rs. 7.89 lakhs; grounds, Rs. 2.03 lakhs; playing fields Rs. 49,000; and water and electric supply and drainage, Rs. 6.39 lakhs; or a grand total of Rs. 52.90 lakhs. Making certain deductions from this total due to savings, grants, etc. there remains a net total of Rs. 38.45 lakhs, The estimated recurring charges total Rs. 12.98 lakhs, of which, however, nearly one-half is covered by income from fees and other sources. A detailed review will appear in the our next issue.

Educational progress in the Punjab

SIR LOUIS DANE'S review of the quinquennial report on education in the Punjab during 1907-12, is a record of expansion and development in every direction. During the five years expenditure has increased by nearly 32 per cent., and now stands at nearly 69 lakhs, while the total attendance of pupils has increased by 81,272 (including 12,626 girls) or nearly 35 per cent. Those increases were distributed as follows: primary education 27 per cent. in number of pupils and 37 per cent. in expenditure; secondary education 46 and 50 per cent.; collegiate education 66 and 59 per cent. Of the increase of 16 lakhs in expenditure, provincial revenues provided three lakhs, district funds nearly an equivalent amount and fees and private contributions 10 lakhs. The net result of this general advance is that now 17 out of every 100 boys of school-going age in the province are being educated. Five years ago the percentage was rather less than 13 and 30 years ago it was between six and seven. Primary education has made the slowest advance of the three branches, but even here the number of pupils has risen by 37,931.

* * *

Secondary education in the Punjab.

THE following resolution is published in the *Punjab Gazette*:—The question of relieving district boards and municipal committees of part of the expenditure now incurred by them on the maintenance of secondary schools has recently engaged the attention of the Punjab Government. The principle which Sir Louis Dane wishes to be followed in regard to the educational expenditure of district boards is that such funds as these bodies are in a position to devote to educational objects should be mainly spent on the extension of primary education, and that the maintenance of English-teaching secondary schools should not be undertaken except in rare instances. Municipal committees maintain a number of English-teaching secondary schools and it is not desired to fetter their discretion in this respect, but the Lieutenant-Governor considers, that these bodies should be enabled to make more systematic provision than has been possible hitherto for the extension of elementary education within their respective jurisdictions. With a view, therefore, to placing more funds at the disposal of local bodies for the improvement of primary education, and also introducing a more systematic apportionment of liability in the matter of aiding schools generally, the Lieutenant-Governor is pleased to direct that from the beginning of the financial year 1913-14 all grants for the secondary classes of English-teaching schools shall be paid from provincial revenues until the finances of the local bodies concerned are such that they can meet the charges themselves, grants for primary schools and departments being defrayed by the boards of committees within whose jurisdictions the schools are situated. It is hoped that this arrangement, the continuance of which partly depended upon the amount of assistance received from the Government of India for educational objects, will be of material help to the progress of elementary education in municipal as well as rural areas. The necessary alteration will be made in the Punjab Education Code.

Separate University for Burma

In the Government resolution on the report of the Director of Public Instruction, we are told the connection of the two Colleges of Burma with the University of Calcutta is not a wholly satisfactory arrangement; and the question of establishing a separate university for Rangoon has again come to the front. Sir Harvey Adamson is of opinion that Burma ought eventually to have a university of its own; but he is not satisfied that higher education is at present hampered by the connection with Calcutta, and he considers that there is therefore no immediate urgency about the matter. His Honour adds:

"If a university is to be established, it must be one worthy in every respect of the province, adequately staffed, housed and equipped. Such a project will cost a large sum, and in view of many more urgent claims there is no prospect whatever of provincial funds being available to meet this expenditure. The Secretary of State has, however, recently announced that the Government of India propose to establish universities at various centres, of which Rangoon is one. The scheme is therefore being examined on the assumption that the whole cost will be met from imperial revenues. Without such aid, it must be indefinitely postponed."

Moral and Religious Instruction The Bengal Conference

The Conference summoned by the Bengal Government with the object of ascertaining public opinion as to the utility of providing moral and religious instruction in schools held its sittings from Monday, December 2 1912, at Writers Buildings. At the first meeting held on December 2, the conference dissolved into three sub-committees to consider the question of religious instruction from the Christian, Hindu and Mahomedan points of view. The general committee discussed the three heads—general influence of the school in moral and religious training, direct moral instruction and direct religious instruction in its broad outline. The second meeting was held on December 3 when the first heading was discussed in all its bearing under various subheads. At the third meeting held on Wednesday December 4 1912, the question of direct moral instruction was discussed.

On Thursday December 5 1912 direct religious instruction was discussed on the basis of the report submitted by the sub-committees.

The following is a full list of the gentlemen attending the conference:—

The hon. Mr. R. Nathan, M. A., I. C. S., C. I. E., (president), the hon. Mr. G. W. Kuchler, (Director of Public Instruction), Principal James, Sir Gooroo Dass Banerjee, the Rev. Dr. Watt, Dr. D. Sarbadhicary, the Rev. Father Power, Raja Banabehary Kapur, the Rev. Mr. Holmes, Mahamahopachya H. P. Sastri, Mr. P. Mukerjee, Mahamahopadhya S. C. Vidyabhusan, Mr. A. Stark, Rai Baikunta Nath Sen Bahadur, Mr. Griffiths, Mr. E. E. Biss, Principal H. Maitra, Ray Rasamoy Mitra Bahadur, Babu Bidhubhusan Sen Gupta, Nawab A. Jubbar, Maulvi Serajul Islam, and Khan Bahadur Mahammad Ibrahim.

Primary schools in Bombay

The following Press Note has been issued:—

In Government Resolution dated the 7th May it was decided that the grants made by Government for municipal primary schools should be revised and that the cost of such revision should be met from the Government of India's grant of 61.2 lakhs for popular education. The Governor in Council is accordingly pleased to direct that the municipalities of the Bombay Presidency should be paid grants for their primary schools equal to one half of the expenditure incurred on them during the year 1911-12. It must be understood that the amounts now sanctioned represent the maximum limit of the grants and will remain fixed until such time as Government may be pleased to revise it.

Asiatic Society Bengal Precis of Communications

The following is a precis of Communications made at the Monthly General Meeting of December 4th, 1912.

Mr. B. L. Chaudhuri exhibited specimens of fish collected by Mr. S. W. Kemp in the Abor country.

Only a few of the fishes out of a large number collected by Mr. Kemp during the Abor Expedition were exhibited. Four of these are believed to be new species, viz. one Nemachilus, an Oreinus, a Macrones and a Mormgua found in the water supply. Besides these there are two well-marked varieties of Rasbora and Macrones. Some of the rare and interesting specimens collected were also exhibited.

Papers:—Fragments of a Buddhist work in the ancient Aryan language of Chinese Turkestan. By Dr. Stien (known.)

This paper gives an account of six MSS. leaves (forming part of a bulky work containing about 400 leaves) recovered from Khotan and written in verse in what is provisionally designated as the ancient Aryan language.

Though the whole work has not been recovered fragments of it lie scattered in different libraries and museums of Europe. The author has given in this paper a transliteration and translation, with explanatory notes, of the six leaves that belong to the Asiatic Society of Bengal.

Contributions to the Biology of the Lake of

Tiberias. N. I. An account of the Sponges. By N. Annandale, D.Sc., F.A.S.B.

The paper is the first in a series based on a visit to Palestine made in October 1912, with the object of discovering whether the peculiar fauna characteristic of fresh water in tropical Africa and Asia, especially as regards the lower invertebrates, extends northwards up the Jordan valley.

Specimens of five species of sponge were found in the Lake of Tiberias. Considered as a whole the sponge-fauna of the lake provides evidence (1) that a peculiar fauna of closely related species is being evolved therein; (2) that in this lake as in others there is a tendency for the Spongillidae to lose their characteristic gemmules, and (3) that as the gemmules disappear the skeleton of the sponge becomes harder and more compact.

The Ash of the Plantain (Musa sapientum, Linn.) By D. Hooper.

The ash of plantain leaves and stalk is used in India for various industrial purposes: as a mordant in dyeing, as a soap, medicine, table salt and manure. Analyses of authentic samples show a variation in composition and alkalinity, and do not exhibit a greater value than ashes of other plants. There is evidence that the composition of the ash is influenced by the soil in which the plants are grown.

A short note on Ayi Pantha, a newly discovered cult in the Bilada District of the Marwar State. By Mahamahopadhyaya Haraprasad Sastri, C.I.E.

The new religion was preached by women in the 15th century A.D. Its chief seat is at Bilada in Marwar. It has a perfect administrative organization and it has about a lac of adherents. The chief object of worship is a light kept up for the last 460 years fed by ghee. It emits no smoke but a yellow substance called "Kesara" which means saffron. The lady preacher is known as "Ayi" and the cult is therefore called "Ayipantha." As Shams-Tabrez is an object of reverence this cult seems to be a survival of the ancient fire-worship of Iran.

* * *

THE RAJA BAHADUR OF KAKINA has sent Rs. 10,000 to Mr. K. C. De, district magistrate of Rungpur, as a first instalment of Rs. 20,000 promised for the erection of a new H. C. School in Rangpur. The balance will be paid during the construction of the building. The new institution will remove a long-felt want of the town.

Donation

* * *

THE Chief Commissioner has been pleased to appoint a Provincial Advisory Committee, with headquarters at Gauhati, to assist the Central Bureau and Advisory Committee in London for the benefit of Indian students in England and to supply them with information as to educational facilities and social conditions.

Advisory Board Assam

THE UNIVERSITIES

Calcutta University.

LIST OF EXAMINERS, 1913:—
Matriculation Examination, 1913.

ENGLISH: J. N. Dasgupta, Esq., Head Examiner. Babus Banabilas Ray, Rakhaldas Chatterjee, Priyanath Chatterjee, Satischandra Chakrabarti, M. L. Prittam Singh, Esq. Babus Basanta Kumar Ray, Deb kisor Mukherjee: Miss Victoria Mukherjee, Rai Rasamay Mitra Bahadur; W. R. Le Quesne, Esq. Babus Satiskumar Banerjee, Priyanath Nag, Gangadhar Banerjee; J. N. Mukerjee Esqr. Mrs. Rajkumari Das, H. C. Chaldecott Esq., J. N. Thickett Esq., Babus Prabhaschandra De, Rajanikanta Datta, Padminibhusan Rudra, Benimadhab Das, Baradakanta Chatterjee, Pulin bihari Kar, Dwijapada Banerjee, Hirankumar Banerjee, Satyendranath Basu, Jogendranath Kanjilal, W. W. Henderson Esq., Rev. Canon A. N. Banerjee; Babus Nabakrishna Bhaduri, Saratchandra Brahmachari, Abhayacharan Das, Syamacharan Mukerjee, Rampada Majumdar, Manibhusan Sen, Sureshchandra Sengupta, Mahammad Yusoof (Madrasa); J. Watson Esq., A. E. Davie Esq., Babu Ishanchandra Ghosh (Midnapur). ALTERNATIVE PAPER IN ENGLISH: Rev. R. Gee.

SANSKRIT (Compulsory and additional): Babus Nrisinhachandra Mukherjee (Head Examiner), Hemchandra Banerjee, Sashibhusan Bhattacharyya, Harilal Chatterjee, Srischandra Chakravarti, Bhabeschandra Banerjee, Radhagobinda Basak, Janakinath Bhattacharyya, Krishnapada Bhattacharyya, Pandit Rajendranath Vidyabhushan, Mahamahopadhyay Premathanath Tarkabhushan; Babus Upendranath Ray, Mathuranath Mandal, Rajanikanta Chatterjee, Pandit Vishwanath Sastri (Debnagri character): Babus Radhakrishna Basu (to look over answer papers written in Uriya character), Surendranath Dasgupta, Nalinimohan Mukerjee, Akshaykumar Dattagupta, Lalitmohan Kar, Girindranath Mallik, Lakshminarayan Chatterjee, Kuladaprasad Bhattacharyya, Kalikrishna Goswami, Pundit Ramchandra Vidyabinod, Babus

Jatindranath Bhattacharjyya, Hemchandra Ray, Pasupatinath Bhattacharyya, Surendranath Majumdar, Debendranath Ray, Satyendranath Sen.

PALI :—Babu Rebatinath Chatterjee.

URIYA (text for female candidates) :—

Babu Kasinath Das.

BENGALI (text for female candidates) :—Miss Kumudini Mitra.

ARABIC :—Maulavi Mahammad Irfan, Shamsul Ulama Kamaludin Ahmad.

PERSIAN :—Capt. C. L. Peart, I.A. Head, Examiner. ***Compulsory*** Shamsul Ulama Mirza Ashraf Ali, Maulavi Mahamud Kazim Shirazi, Maulavi Hedyat Husain. ***Additional***—Maulavi Khalal Ahmed, Maulavi Abu Said Abdullah, Maulavi Muhammad Musa.

GREEK :—Rev. R. Gee, Rev. A. B. Johnston.

LATIN :—Rev. A. B. Johnston, Mr. Schoolfield.

FRENCH :—Rev. Father E. Francotte, Gaston Le Faucheur.

GERMAN :—Dr. G. Thibaut.

ARMENIAN :—M. J. Seth, Esq.

VERNACULAR COMPOSITION : BENGALI : Babu Dineshchandra Sen, Head Examiner; Babu Kumudinikanta Ganguli, Pandit Bidhusekhar Sastri: Babus Jajneswar Banerjee, Chandicharan Banerjee, Sudhindranath Tagore, Bipinmohan Sen, Purnachandra De, Haranath Basu, Kalipada Mukerjee, Pandits Hemchandra Vidyaratna, Saratchandra Sastri; Babus Induprakas Banerjee, Jagatchandra Sen, Kshetramohan Sengupta, Bidhubhusan Mukherjee, Ranendranath Gupta, Jatishchandra Chatterjee; Rai Saheb Haranchandra Rakshit; Babus Charuchandra Banerjee, Taraprasanna Banerji, Jadunath Mandal, Rajendralal Kanjilal Bamacharan Gupta, Balailal Datta, Bijoychandra Majumdar. HINDI : Pandit Thakurprasad Vyakaranacharyya, Babu Bechu Narayan. URIYA : Babu Mahinimohan Senapati. ASSAMESE : Srijut Lakshmikanta Sarma. BURMESE : Maung We Lin Esq. URDU : Maulavi Mahammad Mastafa Khan (Head Examiner), Shamsul Ulama Mahammad Yusoof Jafari, Khan Bahadur Maulavi Abdul Hafiz, Maulavi A. F. M. Hosein.

HISTORY :—Babu Adharchandra Mukerjee (Head Examiner). Babus Nirmalchandra Ghosh, Rakhaldas Basu; S. K. Ray, Esq.; Babus Haripada Pande, Binoykumar Sarkar, Nirodechandra Ray, Bidhubhusan Sengupta, Jogindranath Mitra, Manmohan Basu, Bhubanmohan Sen, Parmeswarprasad Varma, Baidyanath Narayan Sinha, Naliniranjan Chatterjee, Bhagabati Sahay, Ramanugraha Narayan Singh, Kalika Singh; Babus Rakhaldas Banerjee, Kaliprasanna Banerjee & Manmathamohan Bose (For answers written in Bengali); Muhammad Yusoof (Madrasa) (For answers written in Urdu); Babu Parmeswariprasad Varma (For answers written in Uriya).

MATHEMATICS :—Dr. Syamadas Mukerjee (Head Examiner); Babus Surendramadhab Mallik, Satyakrishna Datta, Nibaranchandra Dasgupta, Baikunthachandra Ray, Surendranath Chatterjee, Nareschandra Ghosh, Lalitmahan Mukerjee, Upendra Nath Ray, Bankimdas Banerjee, Syamacharan Basu, Hemchandra Sengupta, Manmathanath Ray, Mrs. Snehalata Maitra, Babus Rajaninath Ghosh, Raghupati Ghatak, Girijabhushan Mitra, Kishorimohan Gupta, Saradakanta Ganguli, Chintaharan Ray, Bireswar Bagchi, Bimanbihary Sarkar, Harsanath Sen, Karunamay Kastagir, Manindralal Sett, Narendrakumar Majumdar, Girindranath Mukerjee, Srikantakarmakar, Radhagobinda Nath, Panchanan Ghosh, Jyotischandra Sarkar.

GEOGRAPHY :—Babu Birajmohan Majumdar (Head Examiner). Babus Hemchandra Dasgupta, Manorathadhan De, Radhikamohan Chaudhuri, Gangadhar Mukerjee, Rajkumar Banerjee, Bhabataran Brahmachari, Jitendranath Sengupta, Radhagovinda Bhawan, Kumudnath Chaudhuri.

ELEMENTARY MECHANIC :—Babu Nibaranchandra Ray.

Intermediate Examinations in Arts and Science, 1913.

ENGLISH. H. Stephen, Esq. (Head Examiner) Babus Hemchandra Sarkar, Charuchandra Biswas, Joygopal Banerjee, Gopalchandra Mitra, Satishchandra Mukerjee, Praphullachandra Ghosh, Bijoygopal Mukerjee, Gopalchandra Ganguli, Bhusanchandra Das; Mrs. Nirmalabala Som, C. Linton, Esq., Babus Harendrakumar Mukerjee, Rajanikanta Guha, Narendranath Ray, Satyendranath Bhadra, Sureshchandra Ray; Rev. J. Drake, Rev. T. H. Robinson, Babus Jatindrachandra Guha, Robindranath Ghosh; Dr. Jajneswar Ghosh, Rev. W. S. Page; Babus Rakhaldas Ghosh, Abinashchandra Mazumdar; R. S. Cooper, Esq., Babus Praffullachandra Ray, Niranjan Niyogi, Abinashchandra Bose, Nrityalal Mukerjee, Girindranath Chatterjee, Narendranath Chakravarti, Matilal Chatterjee, Nikhilnath Maitra, Radhakumud Mukerjee, Ashutosh Mitra, Ashutosh Chatterjee.

ALTERNATIVE PAPER IN ENGLISH. E. J. Thomson, Esq. (Bankura).

SANSKRIT. Mahamahopadhyay Kaliprasanna Bhattacharyya, (Hd. Examiner). Babus Satkari Adhikari, Kokileswar Bhattacharyya, Biharilal Banerjee, Debendrakumar Banerjee, Abinashchandra Guha, Jogendranath Bhattyacharyya, Kumudbandhab Chatterjee, Nilmani Chakravarti, Harihar Banerjee, Haricharan Ganguli; Pandit Biswanath Sastri, (to look over answer papers written in Debnagri character); Babu

Kashinath Das (to look over answer papers written in Uriya character).

BENGALI (For female candidates) Mrs. Sarala Debi.

PALI. C. Duroiselle, Esq., Babu Rebatinath Chatterjee.

ARABIC. Shamsul Ulama Abu Nasr Mahammad Waheed, Dr. A. A. M. Suhrawady.

PERSIAN. Dr. Muzaffal Haq, Mulavi Fida Ali Khan.

LATIN. Rev. E. J. Thompson, R. C. Banerjee Esq.

FRENCH. Rev. Father E. Francotte, Gaston Le Faucheur Esq.

ARMENIAN. M. J. Seth. Esq.

VERNACULAR COMPOSITION :- BENGALI. Mahamahopadhyay Dr. Satish chandra Acharyya Vidyabhusan (Head Examiner , Babus Abinashchandra Das, Chandrasekher Sen, Panchanon Ghosal, Satishchandra Mitra, Jagadananda Ray. Narendranath Bhattacharyya, Girindra kumar Sen, Charuchandra Basu, Gobindanath Guha, Hemendraprasad Ghosh, Hemendranath Sinha, Sarojranjan Banerjee, HINDI. Babu Puranchand Nahar. URIYA. Babu Dasarathi Panigrahi. ASSAMESE. Srijut Nabinchandra Bardolai. BURMESE. C. Duroiselle Esq. URDU. Amir Ali Esq.

HISTORY. Babu Bipinbihari Sen (Head Examiner), Babus Akshoykumar Sarkar, Dharmadas Banerjee, Santosh Chatterjee, Upendra Ghosal, Debendra Nath Sen, Binaykumar Sen (Chittagong). N. N. Gupta Esq., N. K. Naug Esq., Babus Nisikanta Sanyal, Promothanath Banerjee, Krishnadhan Banerjee, Aswinikumar Mukherjee ; J. C. Kydd Esq. ; Babus Bijaychandra Sengupta, Subodhchandra Mukerjee, S. M. Bose, Esq.

LOGIC. Dr. Hiralal Haldar (Head Examiner), Babu Birchandra Sinha, Ambicacharan Mitra, Chintaharan Chakrabarti, Sasibhusan Basu, Khagendranath Mitra, Khudiram Basu, Hemchandra De, P. K. Chakrabarti Esq., Rev. C. Schelle, Babus Mahendranath Sarkar, Syamacharan Chakrabarti, Upendranath Gupta, Surendralal Kundu, Sitaram Banerjee, Phanibhusan Chatterjee, Purnachandra Sen.

MATHEMATICS. Babu Kalipada Bose, (Head Examiner) Babu Rajanikanta Barat, Anathanath Palit, Saradaprasanna Das, Raicharan Biswas, Asutosh Chatterjee, Baidyanath Basu, Satishchandra Basu, Kshetramohan Banerjee, Nagendranath Swarnakar, Hiralal Choudhuri, Upendranarayan Sinha, Jibanmohan Basu.

PHYSICS. Babu Jnanendra Ghosh (Head Examiner). Babus Hridoy Chandra Banerjee, Purnachandra Kundu, Tarapada Mukherji, Bamacharan Bhattacherji, Hemchandra Sanyal, Surendranath Ghosh, Kaliprasanna Ganguli, Sarodamohan Bhattacharjee, Saratchandra Majumdar, Ramendranath Ghosh, Purna Chandra Bhattacharji, Satish Chandra Ray.

CHEMISTRY. Babu Joytibhushan Bhaduri (Head Examiner), Rev. J. Mitchell, B. C. Dutt, Esq., Babus Kiranchandra Mittra, Atul Chundra Ganguli, Chuni lall De, K. G. Nayak Esqr. Babus Gopibhushan Sen, Dhirendranath Mukerji Ashutosh Maitra, Panchanan Niyogi, Kshitis chandra Ray, Dwijadas Datta, Haridas Saha, B. K. Singh Esqr., G. C. Sen Esqr., Babus Anukulchandra Sarkar, Jatindramohan Datta, Rasiklal Datta.

GEOGRAPHY. Rev. W. G. Brockway, Babu Hemchandra Dasgupta.

PHYSIOLOGY. Dr. Satis Chandra Banerjee, Babu Nibaran Chandra Bhattacharji.

BOTANY. J. C. Nag Esqr., Babus Harendra nath Mitra, Sahairam Bose, Surendra Chandra Banerji.

B. A. Examination, 1913.

ENGLISH. Pass. Rev. Father J. Power, J. R. Banerji Esqr., Rev. A Mauchline, J. S. Zemin, Esqr. Rev. J. C. Scrimgeour, Rabindranath Dutta Esqr., Egerton Smith, Esqr., Babu Lalitmohan Chatterji, J. R. Barrow Esqr., F. C. Turner Esqr. Dr. C. Howells, Babu Jyotischandra Banerjee. Honours. H. R. James Esqr., T. S. Sterling Esqr., J. W. Holme Esqr., Babu Herambachandra Maitra, A. D. Keith Esqr., Babu Lalitkumar Banerjee. Alternative Paper in English. F. W. Sudmersen Esqr.

SANSKRIT. Pass. Brabus Brajalal Chakravarty, Umacharan Banerjee, Muralidhur Banerjee, Surendra nath Battacharji, Bhagabatkumar Goswami Sastri, Saratchandra Gupta. Honours. Pandeya Ramavatara Sarma Sahityacharyya, Rai Rajendra chandra Sastri Bahadur, Babu Ashutosh Sastri.

PALI. Dr. G. Thibaut, Mahamahopadhyay Dr. Satis Chundra Acharyya, Babu Rabatinath Chatterjee.

ARABIC (Pass and Honours) Dr. E. D. Ross, Dr. A. M. Suhrawardy, Shams-ul-Ulama Abu Nasr Muhammad Wahid.

PERSIAN. (Pass and Honours) Capt. C. L. Peart, Z. R. Zahid Suhrawardy Esqr., Shams ul Ulama Kamaluddin Ahmad.

LATIN. A. B. Keith Esqr. W. C. Wordsworth Esqr. Rev. E. J. Thompson.

FRENCH. Dr. G. Thibaut, Rev Father E. Francotte, Gaston Le Faucher, Esqr.

GERMAN. Dr. G. Thibaut.

ARMENIAN. M. J. Seth, Esqr.

VERNACULAR COMPOSITION: BENGALI. Pandit Tara kumar Kabiratna (Head Examiner). Babus Akshay

chandra Sarkar, Kshirodchundra Raychaudhuri, Kokileswar Bhattacharjee, Jogindranath Bose.

HINDI. Badu Baidynath Narayan Sing.

URIYA. Babu Madhusudan Dass.

ASSAMESE. Srijut Hemchundra Goswami.

BURMESE. C. DUBOISELLE. URDU. Maulavi Muhammad Gholam Yazdani.

HISTORY. Pass. M. N. Bose Esqr., W. Owston Smith Esqr., R. B. Ramsbotham Esqr. Honours. Babus Jadunath Sarkar, W. Owston Smith Esqr., W. A. J. Archbold Esqr.

POLITICAL ECONOMY AND POLITICAL PHILOSOPHY. Pass. J. C. Coyajee Esqr., Babu Satischundra Roy, W. V. Duke. Honours. R. N. Gilchrist Esqr., T. T. Williams Esqr., Dr J. V. Ryan.

MENTAL AND MORAL PHILOSOPHY Pass. Rev. W S Urquhart, Dr. Adityanath Mukerji, Rev. S. L. Thomson. Honours. Babu Krishnachandra Bhattarcharyya, Dr. G. T. R. Ross, (Rangoon). Ram Dass Khan Esqr.

B. A. and B. Sc. Examinations, 1913.

MATHEMATICS—(*Pass*). Ganes Prasad Esqr, Babu Indubhusan Brahmachari, R. W. F. Shaw Esqr. (*Honours*). J. M. Bottomley Esqr., Dr. Haridas Bagchi, Dr. C. E. Cullis.

PHYSICS THEORETICAL—*Pass*. Rai Kumudini Kanta Banerjee Bahadur, D. B. Meek Esqr. *Honours* C. W. Peake Esqr., A Macdoland, Esqr., S. K. Dutt Esqr., Babu Ramendrasundar Trivedi.

PHYSICS PRACTICAL (*Pass and Honours*) Dr. J. C. Bose, Chairman of the Board. PRESIDENCY COLLEGE CENTRE—W. H. Everett Esqr. Dr. B. C. Ghosh. SCOTTISH CHURCHES COLLEGE CENTRE Babu Jnanchandra Ghosh, Babu Ramendra Sundar Trivedi. ST. XAVIER'S COLLEGE CENTRE—Rev. Father E. Roeland, Babu Tulsidas Kar. DACCA CENTRE—A Macdoland, Esqr. GAUHATI CENTRE—D. B. Meek, Esqr.

CHEMISTRY THEORETICAL—*Pass*. Babu Kalidas Mullick, Babu Jatindranath Sen. *Honours*. W. Tate Esqr., Dr. K. S. Caldwell, Dr. D. Thomson, E. R. Watson Esqr.

CHEMISTRY PRACTICAL (*Pass and Honours*). Dr. P. C. Ray, (Chairman of the Board. PRESIDENCY COLLEGE CENTRE—Dr. P. C. Roy, R. N. Sen Esqr. SCOTTISH CHURCHES COLLEGE CENTRE—Babu Bidhubhushan Datta, Babu Chandrabhusan Bhadhuri. ST. XAVIER'S COLLEGE CENTRE—Rev. Fr. E. Francotte, Dr. P. C. Mitter. DACCA COLLEGE CENTRE—B. N. Das Esqr. GUAHATI COLLEGE CENTRE—Dr. D. Thomson. RANGOON COLLEGE CENTRE—A. E. Bellars Esqr.

PHYSIOLOGY—Major D. Macay, Rai Upendra Nath Brahmachari Bahadur, S. C. Mahalanabis Esqr.

BOTANY—C. C. Calder Esqr., E. J. Butler Esqr., Dr. Girindranath Mukherjee.

GEOLOGY AND MINERALOGY—H. H. Hayden Esqr., P. N. Dutt Esqr.

ZOOLOGY—F. H. Gravley Esqr., W. Kemp Esqr.

Bombay University.

Exam Results

AT THE INTERMEDIATE EXAMINATION held in November 1912, 560 students passed of whom 12 are placed in first class 127 in the second class and the rest in the Pass class. N. M. Shah headed the list of successful candidates.

LL. M. EXAM., 1912, BRANCH II. Both the candidates, namely, Messrs. Pralhad Chandrashekhar Divanji and Pandurang Vaman Kane, have passed the Examination in the Second class. BRANCH IV.—The only candidate, Mr. Vishnu Nilkant Suthe, has passed the Examination in the Second Class.

FINAL M. B. B. S. EXAMINATION.

The following candidates have passed the whole Examination :—SECOND CLASS: Bharucha F P, Hingorani G T, Jhirad S J, Joshi M F, Mulay B V, Muzumcar N B, Potnis P B, Shiveshwarkar R V, Betlinal A S, Daboo E R, Davar J S, Driver A R. NOT CLASSED: Dubash N P, Phadke S K, Tambe G R.

THE FOLLOWING CANDIDATES HAVE PASSED IN PART I. Motwani R C, Parmanand M J, Spencer K B, Shah M N, Subramanyam M.

PART II. Mehta B N, Pantambekar R N, Sheorey N L, Rebello A C, Sunawala P F.

THE FOLLOWING CANDIDATES HAVE PASSED IN ALL SUBJECTS BUT ONE. Mehta B N, Motwani R C, Sheorey N L.

MULAY B. V. has obtained the Charles Morehead and the Balkrishna Sudamji Prizes. HINGORANI G. T. got the J. C. Lisboa and the Lord Sandhurst Gold Medals.

M. S. EXAMINATION 1912. The only Candidate, Mr. Yashvant Govind Nadgir has passed the Examination.

M. D. EXAMINATION 1912. Barch III (Sanitary Science). The only candidate, Mr. Manmohandas Bhaidas Soparkar, has passed the Examination.

Scholarships and Prizes

The undermentioned candidates are awarded the respective scholarships and prizes noted gainst each :—

INTERMEDIATE. Gunjikar K R—The Gibbs Prize.

Mirashi V. V.—The Varjivandas Madhavdas Sanskrit Scholarship.

Shumsuddin Ibrahim—The Sir Frank Souter Scholarship.

Herlekar Shantabai—The Gangabai Bhat Scholarship.

Birdy E D.—The Framji Sorabji Bhavnagar Scholarship.

The R. B. Parvatishankar Manishankar Dave Schp. to Mr. Shrimukhram Mukundram Shukla.

Shivadasani H. T.—The Ibrahim Rahimtulla Khoja Testimonial Schp.

Punjab University.

CONVOCATION ADDRESS

BY SIR LOUIS DANE.

At the Annual Convocation of the Punjab University for conferring degrees Sir Louis Dane, the Chancellor who had on that occassion the degree of Doctor of Oriental Learning conferred upon him "honoris causa," said :—

I desire first to thank the Syndicate and Senate for the signal honour which they have done to me by conferring upon me the honorary degree of D. O. L. the senior honour of the senior Faculty of the Punjab University. I am quite aware how unworthy I am to bear this title and wear these robes, but I can at least claim a very real and deep interest in Arabic and Persian, and some slight knowledge of these classical and of some of the vernacular languages of the Punjab, which alas ! I have to a great extent lost during the last ten years, owing to want of practice. I have ever regretted that the unceasing calls made upon my time by one of the most interesting and absorbing services of the world have left me but little leisure to prosecute more fully my early studies, but I promise myself that opportunity in the time of leisure which soon opens for me. The policy of the Government of India has in the past been somewhat illiberal in the matter of the encouragement of the study of Oriental classics, and the arbitrary time limits imposed often as in my own case, prevented men interested in that study from going up for the Government examinations. I am glad to think that my persistence through 20 years backed by others has at last induced the Government of India to allow Government servants to go up for the Degree of Honour in classical languages at any period in their service though as is so often the case the reform here was too late to benefit the reformer. It is pretty obvious that no man can pass the Degree of Honour Examination at the end of his service unless he has continuously kept up his study of the language throughout that service and it is also obvious that it is much more to the advantage of Government that an officer should go in for such continuous study than that he should pass an examination in the early part of his career and then often forget all that he had learnt.

I hope and believe that the more liberal policy now laid down may encourage more officers to take up the critical study of the Oriental classics and so wipe out the reproach that though we have more to do with Oriental than any nation we are less well informed about the Oriental classics than many nations. With brilliant exceptions, such as Dewan Tek Chand, Captain Ferrar, and Mr. Latiff very few Punjab officers I am sorry to say have taken any of the Government Degrees of Proficiency in these subjects. It is also a hopeful sign of the times that the Government of India should have decided to establish an Oriental Institute at Delhi for the encouragement of the study of Oriental classics and that a similar institute for Oriental language generally is being founded in London.

Importance of Oriental studies

We of the Punjab University may well rejoice at these developments as the University was founded with the primary and special object of promoting the diffusion of European science as far as possible through the medium of the vernacular languages of the Punjab improving and extending vernacular literature generally affording encouragement to the enlightened study of the Eastern classical language and literature, and associating the learned and influential classes of the province with the officers of Government in the promotion and supervision of popular education. From the very first, too, we have been a teaching University on the Oriental side, and though up to the present Oriental research has not been so paying as studies in English, I decline to believe that the Senate will allow mere considerations of money-making to divert its interests unduly from the senior Faculty, though no doubt we should not neglect our secondary object the study of the English language and literature, with the use of the English language for subjects which cannot be completely taught in the vernacular.

I am afraid that notwithstanding all the efforts of the University and the excellent translations into Punjab vernaculars which have appeared under the auspices of the Senate and the Text Book Committee, few modern subjects can be completely taught in this country save in English and consequently the study of the English language and literature bulks more largely in our syllabus than the founders of the University intended. There is all the more reason therefore, that we should concentrate on the encouragement of the study of the Eastern classics, so that we may carry out the wishes of these pious founders so far as is practicable.

I have feared in the past that mere modernity with its Cleared and short-sighted vision fixed only on the main chance would lead even this University to throw cold water upon Oriental studies, and there was a time when the danger was real. I am glad to think a wiser and more far-sighted view now prevails, and that the University is devoting the sum of Rs. 12,000 a year to augment the salaries of the professors of the Oriental College and so to secure the services of men who while deeply versed in the traditional learning of the East, have turned the light of Western criticism upon Oriental methods, and are in a position to impart to their students what is best of both systems. Government is also alive to the necessities of the case, and has created scholarship in Sanskrit and Arabic for men who really mean to study in Europe Western methods of Oriental learning and teaching.

I would now turn to some other features of the educational life of our University and province. First, I must congratulate the University on the acceptance by the Government of India of the scheme proposed by the Syndicate for the expenditure of the Government special grant. This is as follows, and when it is fully carried out it should result in a greatly improved University life. In addition to the annual grant of Rs. 12,000 to the Oriental College it is proposed to spend Rs. 20,000 per annum of the sum available on the establishment of special University lectures during the cold weather. These special lectures should be most valuable adjuncts to our teaching, as those given by Dr. Henderson recently have proved. The permanent improvements contemplated are—

The grant to the University

(1) The construction of the Oriental College on the site adjoining the University Library, at a cost of Rs. 50,000 excluding the building already there.

(2) The acquisition of land for hostels for the Oriental and Law Colleges at a cost of Rs. 176,000, a much needed improvement.

(3) The removal of the outbuildings from the University quadrangle at a cost of Rs. 12,000.

(4) The construction of a residence for the Assistant Registrar, Rs. 12,000.

(5) Improvements to the athletic ground Rs. 10,000.

I have said that the study of English has outgrown the ideas of our founders. I for one do not regret this. Indeed I go further and rejoice in the wider and wider spreading of my native tongue with the flexibility and adaptability to all purposes of learning, science and commerce. I am confident that before many years are over, Roman script used practically by all nations now for general and extra-national purposes, will, as being the vehicle for teaching English, become the common script of India, in which all the people of this cantonment while keeping their own special scripts for their own special use, will be able freely to communicate with others outside their special language limits.

Sir Louis Dane went on to discuss with pleasure the spread of the hostel system and to the progress of education generally. In the course of his remarks, he said: I venture to contend, therefore, that though it is but a beginning, so far as collegiate and secondary and special forms of education go, can shew a very creditable activity, in which we have always been helped and guided, and I may add sometimes forcibly stimulated, by the Punjab University.

Educational progress

The results are decidedly satisfactory, and I have no hesitation in repeating here the facts and figures which were compiled in response to questions elsewhere, and which show our actual progress in higher and secondary education, as compared with our own record of five years back, as calculated by the number of students per million of population.

Colleges.	1906-07.	1911-12.
Arts	[illegible]	[illegible]
Professional	23	34
Secondary schools	3,315	4,927
Primary schools	7,916	10,447

The report of the University for the past year, which I have just seen, fully bears out the keen desire of many classes for higher education. The number of students who have passed the Matriculation in Arts has risen from 1,919 in 1911 to 2,147, and in Science from 145 to 265. The serried rank of graduates in some families are so numerous that, as "ek mushk namuna'i'kharwar," only a few B.A.'s and LL.B's could come forward at this Convocation as a sample of the mass. In using the word "Kharwar" it will I hope be understood that I do not in any way reflect upon the intellectual abilities of the graduates, but only upon their numbers.

Referring to the endeavours that are being made to extend primary education and the changes that have been made in the system of carrying on that education, His Honour said:—A detailed scheme has been worked out for each district for future advance and the total cost of the schools required with their staff and equipment under that scheme will be Rs. 32,30,000 capital and Rs. 20,00,000 recurring.

These are very large figures and a few years back they would have been considered impossible. We live in happier times and if the present system of educational grants is only continued, there is no reason at all why in time the scheme should not be brought into full play and the education even of the agricultural masses rendered possible. It may then be desirable to shorten hours and have special curri-

The lack of teachers

cula and in time we may get up to compulsory education. But that time is not yet, and I have little hesitation in opposing any such suggestion at present as in the present attitude of the agricultural and artisan classes it would require armed force to compel fathers to send their children to school even if we had sufficient schools to which to send them. A generation hence, when the present sons are fathers things may be very different. The great block to the spread of education is the want of teachers. I have explained what we are dong for higher and secondary education in this respect. For primary schools teachers we have opened 25 primary training classes, and are starting these where we have a good vernacular middle school. We have also five normal schools, and are considering three or four new ones. Both sets of institutions are well attended, and as we have raised the minimum pay of teachers from Rs. 8 or Rs. 10 to Rs. 12 or Rs. 15, there is no lack of candidates now, and the want of trained teachers should soon be met. This raising of the pay of the teacher has been a great and much needed reform. I desire to thank local authorities for the manner in which they have met the wishes of Government. The rates are minimarates, and teachers often draw higher salaries, and in some cases receive allowance as postmasters.

I am afraid that this has been a very matter of fact and unconventional Convocation address, and I have dealt largely with humbler forms of education than are usually considered here. But "raiyat cho bekh and o sultan darakhat, darakhat ai pisar bashed az behk sakht"! – all education depends upon the foundation and grounding, and without good and sound primary and secondary education no University could flourish while it is not at all so certain that a country with such educational foundations could not flourish materially without a university, though its life would be maimed mentally and its outlook very circumscribed. The true intellectual life of a nation is attained where the educational grounding is good and the corporate mentality of the people can pass on stage by stage through well-considered phases of instruction until it attains at last full intellectual manhood in a university of learning, deeply and closely concerned in the working of all the stages of intellectual life and training below it and keenly interested in providing for the future of its sons and daughters yet true to that higher learning which is sought for itself alone as benefiting not merely the acquirer but all mankind.

Such a University, is, I believe our Punjab University, and such may it ever be and I am proud, indeed, of having been your Chancellor for five years, and prouder still of the great and signal honour which you have conferred upon me to-day.

THE COLLEGES
And Schools

St. Xavier's College. H. E. Lord Carmichael at the Prize Day.

HIS EXCELLENCY LORD CARMICHAEL presided at the annual distribution of prizes to the meritorious pupils of St. Xavier's College, which was held on Monday afternoon (December 16) on the spacious lawn of the College where a large shamianah was erected and seats provided for the parents, guardians and friends of the pupils. Among those present were His Excellency the Right Rev. Archbishop Zalesky, Papal Delegate, His Grace Dr. Mueleman S. J. Archbishop of Calcutta, Lady Jenkins, Hon. Dr. Kuehler, Director of Public Instruction, Dr. Sabadhikari and Raja Peary Mohan Mukerjee. The proceedings which were enlivened by the College Band, opened with a Drama in three Acts, entitled "The King of the Dungeons" performed by the boys. The play was full of pathetic interest, while the performers displayed remarkable skill and dramatic talent, reflecting the highest credit on their training.

The Rector the Rev. Fr. O'Neill in presenting the report said :—

May it please Your Excellency,—I thank you heartily, Sir, in my own name and on behalf of the staff and students of St. Xavier's College, for the gracious kindness that has prompted Your Excellency to preside at our Distribution of Prizes. Two years ago, St. Xavier's College celebrated its fifty years' existence as an educational institution. It began in a very humble way and amid difficulties that often threatened to overwhelm it. But every step in its onward progress has been marked by encouragement on the part of the Government of India and of Bengal, and often by substantial help received at critical moments of its career.

Successive Viceroys and Lieutenant-Governors of Bengal have been pleased to mark their interest in the College and to preside at our annual prize-giving. We deem it a great favour that you, Sir, as the first Governor of Bengal, should have been pleased to carry on this tradition and should have taken the first possible occasion of testifying to your sympathy with the educational work which we are carrying on here in the interests of the diverse races that people this historic land.

The work of the College consists of two sections, the School and the University departments. The School is a European School, recognised by the Educational Department and sends up candidates for the Junior and Senior School Certificates of the Cambridge University. The vast majority of the boys are the sons of domiciled Europeans and Anglo-Indians. We admit, however, a limited

number of Indians, this number being fixed by the provisions of the Educational Code. The University Department consists chiefly of Indians with a small minority of Europeans and Anglo-Indians. The College is affiliated up to the B. Sc. standard of the Calcutta University.

The report for last year showed that there were 770 students on the rolls. Of this number, 382 belonged to the School Department and 388 have been following the University courses of the College. The boarders or resident pupils numbered 97. The success of candidates at the public examinations was satisfactory. A plot of ground has been secured within easy reach of the College for opening a college hostel. The Government has sanctioned the plans and allotted a substantial sum for the purposes.

At the Presidency Athletic Meeting the College won for the sixth year in succession the Schools Challenge Shield. They have also secured the Apcar Hockey Cup, the Bengal Junior Football League Cup, the Schools League Cup, the six a side Challenge Cup and the Joint Cup. The College Department students added to these trophies by annexing the Mohun Bagan Cup.

The Cadet Corps is 157 strong with two officers. The Officer commanding the district remarked very favourably, at the Annual Inspection, on the smart appearance of the College Cadets and their intelligent knowledge of their drill.

H. E. Lord Carmichael in reply said :—

Father O' Neill and students of St. Xavier's College.—It has given me great pleasure to preside at the prize giving of this Institution and thus to show my sympathy with the work which Father O'Neill and his colleagues are doing in the cause of education in Bengal

Some weeks ago I had the pleasure of being shown round the college by Father O'Neill, but unfortunately the day arranged for my visit was one when you were away on holiday. I had the pleasure of being entertained by the excellent Band of the Cadet Corp. During my inspection I was struck with the equipment which has been provided by the college authorities for the teaching of Science. The laboratories are commodious, the Museums are well stocked and the Observatory —, so far as my knowledge of Indian Institutions goes —is unique. I am told by the Director of Public Instruction that you owe much to the work of the late Father Lafont and I congratulate the College authorities on the way in which they have carried out his ideas and on the conspicuous success attained by their pupils in Science in the University Examinations.

I cannot however, help feeling sorry that this concentration has been mainly on Science. I hear that the College has given up its B. A. courses, and I feel sure that had these courses been continued Father O'Neill and his colleagues would have been equally successful in Arts. When I visited the college, Father O'Neill showed me the excellent playing field which you have and I hear that you take full advantage of it. I congratulate you on your success in the various competitions and especially on winning for the sixth year in succession the School Challenge Shield at the Presidency Athletic meeting. Another year I hope to be present at your annual sports competition and to show my interest in your sports I would like to give you as a memento of my visit here to-day a challenge cup to be competed for in such way as your Sports Committee think best.

Father O'Neill in his Annual Report has expressed his indebtedness to the Government of India and to the Government of Bengal for their generosity in the past and I can assure him that during my term of office, he can count on the same sympathy and interest which he has experienced in the past. I have always admired the devotion of the Jesuit Fathers to their work. They give up their whole lives to their profession with the result that the order has produced some of the greatest educationalists the world has ever seen.

Lord Carmichael then distributed the prizes which consisted of gold and silver medals besides valuable books to the meritorious pupils.

Calcutta Presidency College

A LECTURE on "Lord Lister" was given in the new Physics' Theatre at Presidency College by Mr. S. C. Mahalanobis, Professor of Physiology in the College. The lecturer described vividly the state of hospitals in the middle decade of the 19th century (in spite of the discovery of chloroform) and the dilemma in which the surgeons found themselves. He then explained in a most lucid way the nature and effect of Lord Lister's discovery of the possibility of antiseptic treatment, out of which the present triumphant system of aseptic treatment has been developed by a natural evolution. The whole was an eloquent at tribute to the greatness of Lord Lister's achievement for the diminution of human suffering. The lecture was liberally illustrated by lantern slides specially prepared for the occasion.

Ripon College Calcutta

The Hon'ble Syed Samsul Huda Member of the Executive Council, visited the Ripon College and school. The College was decorated and at the entrance the Hon'ble gentleman was received by Babu Surendranath Banerjee, President of the College Council, and Babu Ramendra Sunder Trivedi, the Principal. He was conducted over the Laboratory and the class-rooms. He then inspected the school-classes which were undergoing their examinations. He was well satisfied with what he saw. The boys

were granted a holiday in honour of his visit. The Hon'ble gentleman saw the site for the College Hostel and highly approved of it.

Krishnagar College

AN interesting ceremony was performed at the College Hall when the portrait of the late Principal of the College Babu Devendranath Bose, M. A., was unveiled. Babu Satish Chandra De, Principal of the College, proposed that Mr. S. Mukherji, the District Magistrate would take the chair, it was seconded by Babu Surendra Lal Ray, Manager Nuddia Raj. Some interesting speeches were made by the ex-pupils of the late Principal. All the leading gentlemen and high officials of the town were present. Mr. S. C. Mullik, the District Judge offered a vote of thanks to the chair and it was seconded by Babu B. Bhattacharjee pleader. Some English ladies and Mrs. Mukherji graced the meeting with their presence. After a short speech from the Magistrate, the meeting was closed.

H. E's visit to Medical College.

HIS EXCELLENCY LORD PENTLAND accompanied by an Aid de-Camp paid a visit to the Medical College. His Excellency was received at the entrance by Surgeon-General Bannerman and Lt. Colonel Giffard and conducted round the various classes while at work. Major Elliot, was also present at the College. His Excellency visited the several classes, including the main theatre where Captain Hirsch was teaching Medical Jurisprudence, Anatomy Room, Pathological Laboratory, Physiological Laboratory, Hygiene Laboratory. Major Miller, I. M. S. received His Excellency at the Chemical Liboratory. His Excellency was well pleased with what he saw.

Madras Christian College Philosophy Association

THE SILVER JUBILEE of the Philosophy Association of the Madras Christian College, was celebrated at the Anderson Hall with the Hon'ble Mr. Justice Sundara Iyer in the chair. There was a social gathering of the members.

The Chairman in opening the proceedings, congratulated the Association on its having reached the 25th year. Twenty five years, he said, was a fairly long period for a school Association to live, and he hoped that the Association had attained its full majority and wished it many years of vigorous life.

After the reading of the Report by the Secretary the members gave a performance of selected scenes from Othello, which were much appreciated. There was also a Socratic dialogue.

The Chairman in the course of his remarks said that the members of the Association seemed to have chosen scenes from Othello, perhaps with the object of putting the audience and himself (Chairman) in a philosophic mood, but such mood did not conduce to induce one to speak much.

The Association, the Chairman said, had done a great deal of good work, and he recalled with regret that the Association had not come into existence while he was yet a student. He was glad to note that the healthy life which Dr. Cooper have imparted to the Association during the time of his connection with the Christian College had apparently continued in full vigour. The inspiring advice of the successive Presidents of the Association and the vitalising influence of the College itself could hardly fail to make the Association thrive, especially where most of the professors were philosophers in spirit though they might not profess philosophy. He fully believed that the Association had been a source of great improvement to the students of the philosophic section of the College Classes. It was the method of thought that was more important than the actual knowledge gained that should be attended to in an Association of that kind. Though there was much brightness and shrewdness amongst Indians for cautious and accurate thinking they required laborious training.

Since his College days, the range of philosophical studies had very much been widened in scope. The range of thought had widened very much in Europe. Psychic investigations advanced by leaps and bounds, and philosophic thoughts of a novel character had been pouring in upon them from the West during the last few years. The inner mind of man was now being studied, explored and understood in a way it was not so done before. Perhaps it must have appeared to some of them that in that development the East and the West sometimes seemed to meet in the results though the method was not the same. The East was as scientific as the West, and the tests of truth were the same in eastern or western philosophy. There was invaluable treasure locked up in Indian philosophy, but he felt called upon to sound a note of caution to those who wished to pursue that study. He spoke from experience when he said that some persons who had devoted themselves after surveying western philosophy to the study of eastern thought got themselves lost in it. He would therefore advise those who wished to pursue such a study to preserve their independence of thought allowing the western methods to stick to them and to have full effect on their energy, while they at the same time took full advantage of the depth of eastern wisdom the amazing characteristics of which were boldness of speculation, closeness of reasoning and determination not to believe anything unless proof was forthcoming. It seemed to him that a study of eastern philosophy, with the help of western method, with a determination not to lose the advantage of western culture would lead to great results. He hoped that a study of eastern philosophy would receive more attention from Indian students, but he would

at the same time counsel them not to give up the study of western philosophy, for, however deep the wisdom of their ancients might be it was the western method that was energising.

Presidency College Union society.

Under the auspices of the Presidency College Union Society, Madras a lecture was delivered on the 13th December 1912 in the English Lecture Hall Presidency College, by Mr. Souti Venkataramamurti, B.A., I. C.S., "on the spirit of Education" with the Honble Mr. L. Davidson I. C. S. in the chair. The meeting was very largely attended.

The Chairman in introducing Mr. Ramamurti said that he understood that the expression "the spirit of Education" meant the spirit in which education should be imparted.

The lecturer rose amidst loud cheers and delivered a very interesting speech in the course of which he said: the products of the Indian schools might perhaps be described as Hot House plants. In Harrow there was only two hours work in class. In Cambridge only two hours was devoted for lessons. It was not so in India. It was 5 or 6 hours a day. There was no arrangement here by which the needs of the individual could be attended to. In India it was almost a sin to question what the teacher said or what was printed in a book. In a University like Cambridge there was a manly sense of equality between a student and a professor. In India there was too much reverence for the teacher which killed the initiative in the student.

Education should draw out the vital forces in a man. The object of education was to create living individuals, not machine made models. Education was of value to the individual, value to his country and value to human beings in general as a factor of human progress.

The period of education was supposed to be a preparation for life as men. Education created in men character and enabled them to live the ideas that they had learnt. He would put in a plea for manly equality between students and professors as in the case of Cambridge.

Muir Central College Allahabad

At the Foundation Day celebration of Muir Central College on December 9, at which the Hon. Dr. Sunder Lal, C.I.E., presided, Principal J. G. Jennings of the College made a long but interesting speech in the course of which he said:—

The College has now entered upon the 40th year of its existence. It was first temporarily opened in a rented building—then called Ludlow Castle and now known as Darbhanga Castle—on the 1st of July 1872, by the Lieutenant-Governor Sir William Muir, to whom we owe as a College an endless debt of gratitude for the care and solicitude with which he founded us: as also to those munificent benefactors of the College, his late Highness the Maharaja of Vizianagram, in whose Hall we meet; and his late Highness the Nawab of Rampur; and others whose names are honourably inscribed upon the shields beneath the gallery of this Hall. As I have said on previous occasions, there are still plenty of shields hanging there patiently waiting for the names of pious college benefactors to be inscribed in all honours and gratitude upon them, and I trust that there are more than one or two now present in this Hall whose names I may have the privilege and delight of adding there before my time as head of the College comes to a close. On December 9th, 1873, the foundation stone of the College was laid by His Excellency the Viceroy Lord Northbrook, so that with today this material college in which we abide enters, as I have said, upon its 40th year; whilst, as a society, we have existed for somewhat more than a year longer. The college was as much as 12 and a half years building before it was formally opened by his Excellency the Viceroy Lord Dufferin in 1886; and I am glad to say that it has been in the course of building more or less ever since. May it continue to grow and flourish throughout the centuries, increasing from generation to generation, and keeping pace, foot to foot, with the advancing educational needs of the people of this our own part of the great and historic land of India, the mother of so much learning and piety in the past and as we trust the fruitful source of high and varied knowledge in all the sciences throughout all future ages!

But a college must grow not only outwardly but inwardly, not only materially but intellectually not only physically but spiritually. We need not only the apparatus but the atmosphere of learning; not only the waters of knowledge but the desire to drink of them; not only an imposing roll-call but the orderly, organised, and disciplined life of study. There is an efficiency which is outward: and an efficiency which is still more important, which is inward. Outward efficiency includes halls and ample grounds, laboratories and class-rooms libraries and apparatus, and an efficient and sufficient staff. To these there must be aded organisation, without which the rest are though not useless yet largely unutilised: and which while it is essential to efficiency, both external and internal is not definitely to be classed with either the one or the other. Internal efficiency I will not attempt to define, but it is something beyond mere organisation and discipline. It is a matter of the spirit, and depends on the zeal of the staff and on the mental attitude of the students.

It seems to me that apart from material reasons we come to school and college, firstly in order to

learn what is this world in which we live, in other words to learn the truth about our surroundings; and, secondly, to learn what is our duty; duty and truth—I cannot say which is first, where each is essential and inseparable—these are things which, whether we are conscious of their presence or oblivious of their guidance, lead us all, eager or slothful, up to the portals of our college. All study is a pursuit of truth, an endeavour however feeble to learn something more about the strange world we live in. In early childhood it is with all of us an eager happy pursuit, than which nothing could be more delightful. Most of us teachers have not yet learnt how to teach—in spite of special colleges where they teach you how to do it—and I suppose this is the reason why the youthful pursuit of knowledge loses its zest so often as our years increase. And if the object set before us is the mastery of a book, of course our zest in the pursuit is lost: but if your quarry is the secret of the world, the inmost nature of this our universe, of earth and sun and stars and of man's life and soul, and if we continually see glimpses of the quest as we pass through the forest of books, whether swiftly as on horseback or more laboriously on foot, surely the zest and delight of inquiring childhood must return and urge us on.

And in learning of the nature of the world surrounding us our natural purpose is to discover how best and most fitly to conduct ourselves therein. And conduct is—unless we are altogether self-regarding—duty. For in this strange world of ours there are others wandering, somewhat bewildered, like ourselves; and the problem is how to behave towards them, in a universe so constituted as ours. Here lies the pith, or kernel, of all our studies. There is our duty to the Divine, there is our duty to others, and lastly our duty to ourselves. As regards the first, I will say nothing of it save that I cannot distinguish it from our duty to others—to our fellow-creatures and our fellow-men. As regards our duty to ourselves, I will say as a warning that in my experience there can be nothing less satisfying than this, pursued for its own sake in other words than self-regarding individualism, one's duty to one self is one's last and not one's first duty. It is indeed only important at all because we are not only important to ourselves, but are important to others; because we are not mere isolated unit but are fractions, portions of a great city whether that city which St. Augustin in the 5th century of our era called the city of God, or that less august unity which we call the state. In ourselves we are nothing; our strength and importance is all derived from others; and our duty to ourselves is our duty to any other of fellow-citizens, with only this difference that we have special facilities to make ourselves satisfactory member of society, while we are imperfectly fitted to correct and guide others what I want to say is this that my experience teaches me that there is no peace or satisfaction in self regarding action in looking after, number one, that duty to oneself is a more or less specious phrase, generally covering more or less imperfectly the pursuit of one's own pleasure or advantage; and that duty practically always regards others.

TECHNICAL EDUCATION

STATE TECHNICAL SCHOLARSHIPS 1913.

THE Government of the United Provinces is inviting applications for technical scholarships of £150 a year enabling holders to proceed to Europe to learn sugar engineering and wood and grass pulp working.

Applications are invited by Burma Govt for two state technical scholarships in (1) Electrical and Mechanical Engineering and (2) Geology, each of the value of £150 a year, tenable in England for a period of two years, which may possibly, in special circumstances, be increased to three. Applications should be sent by March 1, 1913, to the Secretary to the Local Government.

A CORRESPONDENT writes:—

Aryan Excelsior League, Bombay, Lecture on Commerce

UNDER the auspices of the Aryan Excelsior League, Mr. M. D. Raut delivered an interesting lecture in Aryan Education Society's Schools, Angre's Wady. Mr. B. L. Thosa—the principal of the Bombay Commercial College—presided on that occasion. The lecturer first explained what is Commerce and how commerce forms an essential factor of civilisation. He then showed how other nations have reached their progress and civilization by their commercial enthusiasm and enterprise. "India does not lack," he said, either enthusiasm or enterprise. Our merchant classes sufficiently show commercial ability. They are without education and yet they manage their business well. But want of commercial education has kept away from them the benefits to be derived by system and organization. We often find the same man working as a clerk, as a salesman and many other things combined in one. This sad state will be removed by commercial education. India has many national advantages over other countries. Her soil is fertile. Labour is cheap and commercial instinct in certain communities is keen. Why then has our country made no progress? The reply is the want of proper system

atic commercial education. While alluding to our commercial classes spread everywhere, he observed that among so many classes there are only a few that really give sound training. It is time that Government should do something to spread commercial knowledge. It is gratifying to see that the Bombay Government have already taken the matter in hand. We owe our sincerest thanks to our Government for the valuable lectures of Prof. Lees Smith that were arranged for us. We hope that the new faculty in commerce granted to our University will send out practical commercial men. If we want advance in civilisation, we must improve our material condition, and that depends on how we make progress in commerce. After the lecturer Mr. Atmaram Tambane made a few remarks and then the president said that theoretical commercial education was needed. He treated that subject from different points of view and showed need of it.

HINDU UNIVERSITY.

AT the first annual meeting of the Hindu University Society the statement of accounts which had been previously passed by the Committee of Management, showed a total of Rs. 17,55,368-5-11, including donations (Rs. 17,05,460 5-8), discount (Rs. 50,907-12-6), interest (Rs. 15,350-2-9), miscellaneous receipts (Rs. 2,343-8-3) and collections deposited in banks other than the Bank of Bengal, Allahabad (Rs. 85,084-12-2).

The Progress Report of the Society adopted at the meeting gave a succinct account of the genesis and progress of the movement, the places visited by the Hindu university deputations and the measure of sympathy and support extended to it by the Hindu public. It showed that there were now 17 donors whose donations ranged between one and five lakhs, about 800 who have promised a donation of Rs. 500 and more, and over 10,000 donors of smaller amounts. Including the permanant annual grants of Rs. 12,000 each which H. H. the Maharaja of Bikaner and H. H. the Maharaja of Kashmir have been pleased to make, the total amount promised exceeds 67 lakhs, and the total of realisations 17 lakhs. The donor's list includes the name of a few European officers, several Mahomedan gentlemen including one from distant Borneo, sympathisers and supporters of the movement from Bhamo in Burma at the one end Kashmir at the other, and from Bombay and Madras in the South, and of a number of sympathisers from Cambridge. Deputations of the Hindu university visited the following places:—Kheri, Fyzabad, Bankipore, Gorakhpur, Cawnpore, Chapra, Muzaffarpore, Darbhanga, Bhagalpur, Monghyr, Lucknow, Calcutta, Faridpur, Malda, Mozuffarnagar, Rawalpindi, Lahore, Amritsar, Meerut, Bareilly, Saharanpur, Moradabad, Unao, Sitapur, Etawah, Partabgarh, Bahraich, Ajmere, Udaipur, Moradabad, Bareilly, Naini tal, Almora, Ambala, Saharanpur, Simla, Rae Bareli, Indore, Kotch, Gaya, and Jaunpur. Besides this, meetings were held by the residents of the following places to organise the collection of subscriptions for the university: Dehradun, Ballia, Basti, Sattor, Gonda, Hardoi, Partabgarh, Fatehpur, Shahjehanpur, Nahan, Khanja, Sikandrabad, and a number of places in the interior of Fyzabad, Cawnpore, Moradabad, and Rae Bareli districts.

The present office bearers and members of the Managing Committee were re-elected for the ensuing session. Hon. the hon. Maharaja Sir Rameshwar Singh, Bahadur, K. C. I. E., of Darbhanga continues to be the president, and Sir Gooroo Das Banerjee, Kt., M.A., D.L., Dr. Rash Behari Ghose, M.A., D.L., C.S.I., C.I.E., and Mrs. Annie Besant, as vice presidents, and the hon. Pandit Sundar Lal, B.A., D.L., C.I.E., as honorary secretary. The Committee of Management consists of leading Hindu gentlemen from the different parts of India, including Bengal, Madras, Bombay, the Punjab, Central Provinces and Bihar numbering 51 in all besides 19 ex-officio members. A working Committee consisting of Secretaries and seven members of the Managing Committee was constituted to dispose of all current business, subject to the general control of the Committee of Management, to which all matters of general importance and those involving questions of principle will have to be referred. The following members were elected by the Committee of Management, which was held immediately after the annual meeting, to form this newly constituted Working Committee:—The hon. Pandit Madan Mohan Malaviya, the hon. Pandit Moti Lal Nehru the hon Rai Ganga Prasad Varma Bahadur, Dr. Satish Chander Banerjee, Dr. Tej Bahadur Sapru Munshi Iswar Saran, and Pandit Baldeo Ram Dave; all the secretaries to the Committee of Management being *ex officio* members of it.

Rai Ram Saran Das Bahadur, M.A. manager the Oudh Commercial Bank, Limited, Fyzabad, and Babu Madan Mohan Khanna, retired chief accountant, Allahabad Bank, Limited, and now one its directors, were appointed auditors to audit the accounts of the society for the ensuing session.

Efforts are being made to collect the subscriptions which have been promised but not yet paid up. *A deputation of the society headed by the hon. the Maharaja Bahadur of Durbhanga will tour from the begining of the next month in the U. P. Central India, Rajputana, Guzrat, and Kathiawar, Bombay and Madras to secure fresh subscriptions*

to make up a crore, as well as stimulate the payment of those that remain unpaid. Fifty laks must be deposited in the Bank of Bengal in order that the University should be constituted by an Act of the Legislature. It is earnestly hoped that all supporters of the movement will exert themselves to their utmost to make up this total as early as may be practicable.

Education Abroad.

OXFORD UNIVERSITY ITEMS.

Common University Fund. Occasional Courses of lectures for the Encouragement of Research and special study.

The Delegates of the Common University Fund propose to make arrangements for occasional courses of lectures or instruction, to be given by members of the University (not being Professors or Readers), or by other persons, on subjects of which they have made a special study. One or more Lecturers will be appointed in Easter Term, 1913. The duties of a Lecturer shall be to give instruction by lectures or otherwise.

The number of lectures or hours of instruction, and other conditions (which may include publication), shall be determined by the Delegates after consultation with the Lecturer in each case.

The fee will be not more than £50 for a course of lectures or instruction.

Every Lecturer will be required to give his lectures or instruction not later than the end of the academic year 1913-14, and to present a report at the conclusion of his course.

Candidates for election should send in their names, together with the subjects which they propose, and any other explanation which they may think fit to offer, to the Registrar of the University for the Secretary of the Delegates of the Common University Fund not later than the last day of February. The choice of the Delegates will not be limited to such candidates.

Report of Standing Committee on College Scholarships.

With regard to Scholarships and Exhibitions offered or awarded during the academical year 1911-12, the Committee have collected information from the Colleges. They find that of Open Scholarships and Exhibitions there were awarded—

For Classics	62	Scholarships,	30	Exhibitions.
„ Mathematics ...	12	„	6	„
„ Natural Science	15	„	5	„
„ Modern History	16	„	18	„
„ Classics and History ...	1	„	1	„
„ Divinity			1	„
„ History and French			1	„
„ English Literature	1	„		
„ Hebrew ...	1	„		
„ Natural Science and Mathematics ...			1	„
„ Divinity and Hebrew			1	„
„ Music	2	„		
„ Modern Languages			3	„

Of Scholarships and Exhibitions for which there are some limitations are regards birth or place of education, there were awarded —

For Classics	28	Scholarships,	21	Exhibitions.
„ Mathematics	5	„	3	„
„ Natural Science	3	„	4	„
„ Modern History	2	„	3	„
„ English Lang. and Lit			1	„
„ Hebrew			2	„
„ Classics and English			1	„
„ Mathematics and Natural Science			1	„
„ Various Subjects (Elementary Training College) ...			1	„

There has been very little change in the number of Scholarships and Exhibitions awarded in the different subjects, as compared with last year. A rather larger number of Exhibitions were awarded as open Exhibitions *pro hac vice*.

HARVARD NOTES.

Harvard Forum.

Arrangements have just been completed concerning a permanent Harvard Forum. Meetings for student discussion of questions of University and public interest will be held from time to time in the Union, and will be under the immediate direction of the Speakers' Club, with the co operation of the Governing Board of the Union. The membership of the Forum will consist of all members of the Union and the Speaker's Club. The meetings will begin immediately after the fall athletic season is over, and will be held at regular intervals.

Harvard and the Opera.

In all the large university cities of Europe there is a close connection between the students and the opera. The students obtain tickets at reduced rates, form a large proportion of the audience, and so enjoy unusual educational advantages in that way. Until last year there had been no attempts at this University to bring about close relations between the students and the Boston Opera. However, last spring a movement was initiated that resulted in the formation of the Opera Association, the purpose of which is to secure for students admission to the opera at reduced rates. Thus the aim of this new organization is to remove the prime obstacle to close relations between Harvard and the Boston Opera—namely, high price of admission. By joining this Association for a slight fee a student may secure tickets for approximately half-price.

The Associated Harvard Clubs have arranged to offer 11 scholarships each of $300 and each to be awarded to some man in those states of the Union which have a representation of less than four men in the University. The ultimate plan is to ensure for the registration in every incoming class of a representative from each and every one of the United States. This follows somewhat the line of the Rhodes' Scholarships in England. The award is to be made in the fall of 1913 to a man entering the Freshman class, and is to be held for a single year. This sum of $300 will be liberal enough to adequately cover the heavy travelling expenses to and from College from distant states. "Thereafter, men of ability can secure other College aid or employment sufficient to carry them forward. If there be no well-qualified candidate for admission to the Freshman class, then the scholarship may be awarded to any applicant from such state who shall be approved by the Scholarship Committee of the Associated Harvard Clubs."

Harvard Club Scholarship (To make Harvard more democratic)

ALL STATES REPRESENTED IN FOUR YEARS.

On the basis of founding scholarships in those states whose representation is less than four, there are fourteen states in which the awards will eventually be made. From the official figures of 1911-12, these states and their present representation in the College are as follows: Arizona, North Carolina, and South Dakota, none; Delaware, and Wyoming, 1 each; Arkansas, New Mexico, Florida, Idaho and Utah, 2 each; West Virginia 3.

Although only 11 scholarship have been provided for so far, it is expected that the list of 14 will soon be complete. "Thus in four years there should be four men in the University from each state, a permanent pledge of the continued democracy of the University, while thereafter there would be graduates returning to every state carrying back the spirit of Harvard, fertile seed for new growth, influence and power".

Gore Hall, the present Harvard Library, has been too small to afford proper facilities for the convenient handling of the vast number of books which it possesses. The need for a bigger and more commodious library has long been felt by all men interested in the welfare of Harvard; but for lack of funds no practical steps could yet be taken to this end. Recently through the generosity of Mrs. Widener of Philadelphia, mother of H.E. Widener of the Class of 1907, who met with an unfortunate death with the sinking of the Titanic, Harvard corporation has been enabled to remove one of its long felt wants. The library is to be named the Harry Elkins Widener Memorial Library in memory of Mrs. Widener's lost son.

Harvard Library

The Widener Library when completed will afford shelving space for about 2,500,000 volumes, besides reading rooms, offices for the staff, quarters for special collections, and a large number of seminary rooms and private rooms for professors, visiting scholars, and advanced students.

According to the figures of the count for the year 1912, the Harvard University library now numbers 1,664,900 volumes and pamphlets, and increase of 75,851 over the previous year. The college library, including Gore Hall and thirty-six reference collections aggregates a little over a million volumes. Of the departmental libraries, that of the Law School reveals the greatest development, with an increase of 25,600 volumes over a year ago. It has been called "the most perfect collection of legal records in the English-speaking world."

University of Pennsyvania

According to statistics just completed in the administrative offices of the University of Pennsylvania for its one hundred seventy-third year, there is a gross registration of 5,261. Allowing for approximately 220 duplications in registration between various departments makes the net registration for the year 5,041. The number of Freshmen enrolled is 1,313.

While the total enrolment has fallen off 91 as compared with the preceding year's figures, it is interesting to note that there is increase of 82 in the number of first-year men.

COMPARATIVE TOTAL REGISTRATION.

	1912-1913	1911-1912
The College:		
Arts and Science,	335	374
Biology,	52	42
Music,	30	29
Town Scientific School;		
Architecture,	215	191
Chemistry,	50	57
Chemical Engineering	114	106
Civil Engineering,	213	243
Mechanical and Electrical Engineering		
Wharton School of Finance and Commerce	630	555
Graduate schools	403	404
College Courses for teachers	548	681
Evening Schools of Account and Finance	280	230
Medical School	313	387
Dental School	502	449
Veterinary Medical School	115	148
Law Schools	385	371
Dental Graduate School	6	14
Summer Schools	751	712
	5261	5370
Duplications	220	220
Net registration	5041	5150

COMPARATIVE FRESHMAN REGISTRATION

	1912-1913	1911-1912
The College:		
Arts and Science	102	114
Biology	13	4
Town Scientific School		
Architecture	63	61
Chemistry	15	15
Chemical Engineering	38	41
Civil Engineering	65	64
Mechanical and Electrical Engineering	105	132

Wharton School of Finance		
Commerce	292	235
Evening Schools of Account and Finance	154	143
Medical School	71	97
Dental School	178	153
Veterinary Medical Schools	34	45
Law School	183	137
Total	1313	1231

Education in New Zealand.

SOME FACTS FROM THE REPORT.

The New Zealand Minister of Education's Report for 1911 shows that at the end of that year the number of public schools open was 2,166, an increase of 70 in twelve months. On the rolls of these schools were 84,562 boys and 77,086 girls, whilst the percentage of attendance to enrolment was 89.5. (To be compared with 67.1 in Switzerland, 92.0 in Japan, 89 in England, and 88.2 in Scotland.) The State pays a large sum annually for the conveyance by rail of children in outlying districts to some convenient school, and it provides free classbooks for all standards. The proportion of women teachers to men teachers is not excessively large, and does not increase materially. We observe that New Zealand is conscious of the necessity felt in older countries, of making seperate provision for feeble minded children, and recognizes that the responsibility of the State knows no age-limit. "Six years is fixed by the education Amendment Act, 1910, at the age at which young people of this kind shall come under instruction, and, unless they have been previously exempted by the minister of Education by reason of in health, or because they have developed sufficiently to earn their own living the instruction must be continued until they are twenty one years old. When an inmate of the School for the Feebleminded reaches that age, and it is considered that he has not the capacity to guide his life either in his own or the public interest, he may, on the order of a magistrate, be kept under control for a further period of four years, and, by similar procedure, extensions of the currency of the order may be made from time to time, so as to secure lifelong guidance where it is deemed advisable." The number of children now requiring separate treatment is estimated at 300, and a havy expenditure must be incurred to provide for them.

WHAT OUR STUDENTS. ARE DOING ABROAD.

Indian Successes at the Bar Final Examination

The following Indian gentlemen have been successful in the Michaelmas examination (Final) of students of Inns of Court held in Gray's Inn Hall on October 7, 8, 9, 10. and 11. L. I. denotes Lincoln's Inn, I. T. Inner Temple, M. T. Middle Temple, and G. I. Gray's Inn :—

Class I (in order of merit)—Makanji Jutha Mehta, and Nanabhoy Hormasji Moos, M. T. (equal 3rd) ; Tehmuras Lavasji Modi, L. I. (9th) ; Amarbandhu Guha, M. T. (16th) ; Sailesh Chunder Majumdar, G. I. (11th). All awarded certificate of honour. Class II (in order of merit)—Ciriyam Saryanarayanran, Bhasker, L. I. (1st) ; Dhin Singh M, T. (3rd : Narayanswami Swaminath Aiyer G. I. (6th) ; Ladha Ram Anand, G. I. and Obalum Lakshmanaswami, L. I. (equal 16th) ; Sailendra Nath Datta, G. I. (17th) ; Balwant Singh Bandhari, L. I. ; Syed Ryaz-ud din Ahmad, L. I. Class III. (in alphabetical order) Pran Nath Aga, M. T. ; Mohamed Ahmad, L. I. ; Syed Manzoor Ahmad. G. I. Syed Anwaruddin Ahmad G. I. ; Syed Anwaraddin Ahmad and Rustom Merwanji Alpaiwalla, M. T. ; Mir Amiruddin, L. I. ; Aabib Ashraf, M. T. ; Saini Ranian Bandophdhyay and Rabindranath Banerjee, G. I. ; Abinash Chandra Bera, G. I. Raghbir Singh Cudhraja, M. T. ; Dewan Narinjan Das, M. T. ; Nirmal Chandra Datta, L. I. ; Ananda Ram Diwan. L. I. ; David Solomon Erulkar, L. I. ; Tirithdas Maghanmal Giani, M. T. ; Phiroz Dorabji Gorwalla. L. I. ; Jamil Aussain, M. T. Qamumilli Jaggaraudu and Aia Mohamud Jan. L. I., Ceke Maneckji Tarbhri, I. T. ; Shamshad Ahmad Ahmad Khan, M. T. ; Abu Sharf Muhammad Latifur Pahman, I. T. Rebatinath Maiti, M. T. ; Maung Maung (ii), L. I. ; Shah Mohammad, G. I. ; Nirmal Canta Nag L. I. Chaganti Sambasiva Rau, M. T. ; Labh Singh (i) G. I.

A Graduate in Medicine

Mr. Amulya Ch, Mitra, the second son of Dr. N. G. Mittra, civil medical officer of Arrah, has returned from America after gardua ting in medicine in the Chicago University. He was accorded a hearty welcome by his numerous friends.

Mr. K. G. Bannerjee, has obtained the Sensor Mathematical Schalarship at New College, Oxford.

We are glad to learn that Dr. V. Gabriel, son of Mr. V. Vraspillai J. P. U. P. M.. Mannar, and brother of Mr. Adv. V. Josheph of Jaffna, who had a briiliant career at the Ceylon Medical College, has passed the M. R. C. S. and L. R. C. P. Examinations, London, with distinction in Surgery.

THE DEVELOPMENT OF MORAL THOUGHTFULNESS IN THE SCHOOL *

By PROFESSOR FRANK CHAPMAN SHARP.

Those who believe that the school should undertake systematic work for the moralization of its pupils, seem, in the main, to be divided into two camps, those who rely for the attainment of their eye upon moral instruction, and those who put their trust in moral training. The former use the lecture, in one or another of its various forms, or the text-book, and appeal chiefly to their pupils' powers of appreciation and memory. Most of its representatives confine their attention to the problem, what modes of conduct are right or wrong. But this limitation is not inherent in the system. The laws of life, and the technique of dealing with temptation, may form a part of such a programme as well as anything else. The essence of method is that the end is knowledge, and the means, the imparting of information by the teacher. The advocates of the second method, on the other hand seek to provide conditions, whether in the class room or out of school hours, that will make for the formation of habits of right action.

The first of these methods is a constant object of ridicule for the representatives of the second. It has been likened by them to the attempt to teach swimming by instruction given to the pupil when on land. Now it is one of the purposes of this paper to show that instruction in morals should be reduced to a minimum. But in so far as the criticism referred to is directed against the value to children and young people of information about the moral life, it misses the mark. Knowledge may not, by itself, be an efficient cause of moral action, but it is a *conditio sine qua non*. And there is only too much of it—and that, in part, of the highest importance,—that is a sealed book not merely to the child, but often to his parents. How many people know, what Comte among others, has tried to teach us, that it is the duty of every person living by any useful work to regard himself, not as an individual working for his own private benefit, but as a public functionary, working for the benefit of society? And that the duty here stated is as sacred as, and indeed is at the foundation of the duty not to steal? How many newspaper owners have ever stopped to consider whether in advertising certain patent medicines they were not, in effect, guilty of murder? No one can maintain that such knowledge, properly imparted, will have no effect upon conduct. A letter of some forty words, written to the proprietor of *Colliers' Weekly* by a stranger, led to the exclusion of all such matter from that paper, and more than that, to one of the most vigorous campaigns against the patent medicine evil ever undertaken in the United States.[1]

But the need of information on the part of the child or youth extends much farther than these illustrations suggest. He needs a knowledge of the laws upon which the development of character depends; of the nature of his fellow beings; of their wants and his power to supply them. He should, for example, become acquainted with the laws of habit, and with the intimate and complicated relationships between physical and moral health. He must be brought to see the importance of self-knowledge, and to grasp the technique of self-control. He must learn that success in self-control is possible, even to the most hard-pressed by being shown what others have endured on their way to conquest: and he must recognize that his own struggles are nothing exceptional, but are, on the contrary, whether in one form or another, nothing other than the common lot. Again he must be made to see the possibilities of good locked up in even the most unpromising of his fellow men, as a protection against the cynicism which is the bitterest foe of the spirit of service; he must learn that the life of service means, not weakness of will, but strength; he must be shown that the best in his own life is the product of the honest and faithful work of others, sometimes secured to him through the greatest sacrifices on their part; he must discover how high human nature can climb, that both humility and aspiration may be wakened. Once more, he needs to be shown that the law of cause and effect works in human affairs with the same inexorability that it does in nature, and he ought to be taught what the leading laws are. Such knowledge is an essential part of his equipment for life, and much of it can be obtained only through some forms of class room work. There may be a better method of supplying this information than by pouring it in by means of the lecture or text-book. But at all events only a small part of it can be imparted through the process of training, and till something better is provided the pouring in method cannot be rejected.

The importance of the second method, that of training to the desired modes of action, has been so well presented again and again, that it can be dismissed in this place with a very few words. Knowledge must awaken feeling, and this latter find for itself an habitual channel to action; or the result is one of those two monstrosities, the moral pedant stuffed with knowledge which he never thinks of using, or the still more repellent and hopeless sentimentalist. The channels between

* From American contribution to the Second International Moral Education Congress held at the Hague, August 1912.

[1] J. A. Thayer, "Astir, A Publisher's Life Story," p. 205.

thought and action must be opened and continually deepened. This work moral training aims to do.

Each of these methods, then, has its place in a complete programme of moral education. Each has also its very serious limitations. We begin with the first mentioned. In the first place the pouring in process, whether employed in this or any other field of instruction, does not even accomplish satisfactorily the narrow aims which it sets before itself. Material introduced into the system in this manner is in great part, not assimilated, and even where it is, is not apt to be long retained by the memory. But this is the least count in the indictment. Suppose these ends attained as completely as you will, it still remains true that your pupil has not gained appreciably in the power to observe, to analyze, and to reason. What then is he going to do when he is in a situation which your instructions have not covered? You will find him ordinarily unable to make even the simplest application of the principles which you have inculcated with so much care.

These strictures on the text-book and lecture system apply to every part of the field of knowledge from history to astronomy, But in the field here under consideration there are additional very serious objections to its use. No distinction is more frequently overlooked than that between what we believe and what we believe we believe, and, in matters moral, few distinctions are more important. Ask a hundred persons who regard the Sermon on the Mount as an infallible, God-given revelation, whether they consider revenge wrong, and the majority will answer, Yes. Put concrete cases to them, and carefully eliminate from the situation the necessity of punishment on any other grounds than the retributive; the overwhelming majority will justify punishment in revenge. Face them with the specific prohibition of Matthew v, and at least half will stand by their guns. Indeed so weak is mere authority where it comes into conflict with convictions having their source in deeply rooted emotions, that although for sixteen centuries the gospels have been the official guide of morals in Christendom, during the greater part of this time the belief has been not merely cherished in the bottom of the heart, but openly formulated and all but universally avowed, that revenge under certain circumstances is not merely a right, but the most sacred of duties. What holds for a book regarded as infallible will certainly hold for the teacher who can urge no claim to infallibility. Dr. Elliott, who has been conducting courses in moral instruction in the New York Ethical Culture School for many years, informs me that nothing which he can say avails to convince his twelve to fourteen year old pupils that revenge is wrong. [2] Moral instruction does not have a mass of putty of deal with, as many people vainly imagine. Ideal, however incoherent and imperfectly formulated, faces ideal from the day the teacher is confronted with his pupil in the school. Where there is conflict you can produce conviction, in the main, only by showing that your own ideal is the more adequate representation of what he is blindly groping for. Now you can perhaps accomplish this end by a demonstration which you yourself conduct, as teacher, for the benefit of your class, as some teachers demonstrate for their classes the propositions in geometry. But apart from the more obvious difference between mathematics and morals, in the latter field self-interest and powerful passions tend to deflect the attention and paralyze thought along one line, and produce hypertrophy of attention and thought along the opposite line, so that even where there is verbal assent, there may not be even the beginnings of genuine conviction. And where there is momentary conviction—we have all observed examples of this—it may be wiped from the memory, like the pencil-marks upon the slate, within an hour's time. Suppose, however, conviction to have been produced—and preserved. There is still a gap before action is reached. Ordinarily, especially, in the young, some amount of realization is requisite in order to bring about action, if forces of any strength are marshalled in opposition. But information poured into the mind from without is not the most efficient instrument for the production of a realizing sense of the demands of a situation which the child meets in the course of actual experience. Consequently there often remains a great gulf between moral instruction and moral practice, the existence of which its enemies have not been slow to observe and proclaim.

The system of moralization through training to action, has, in its turn, limitations equally serious. Some of them were pointed out above in the presentation of the need, on the part of the young, for knowledge about the moral life. There are others just as far-reaching. The aim of this method is to produce habits of action. But habit merely means doing what you have done before. What starts the habit? Is it fear of punishment of one sort or another? If so, when the pressure is removed from the young person on his leaving school—we are not speaking of those, who, like certain soldiers, have been subjected to that kind of pressure for a quarter of a century—he is practically certain to relapse in the face of temptation.

[2] Our entire theory of the influence of authority upon moral ideals needs a thorough overhauling. It is in about the same stage to-day that the theories (or rather guesses) concernin the mental processes of animals were fifty years ago.

The members of the athletic teams of our high schools are not allowed to smoke during the training season. Do they, or do they not, return to their smoking after they have "broken training"? Our high school principals have but one answer. Habits of promptness, neatness, order, etc., are fairly well enforced in our American schools. Do business men who employ the boys fresh from the schools find these qualities ingrained in them? So far from it, that there is nothing but complaints at their absence. I have had occasion to observe the effects upon the pupils of the training given by military school, after these pupils have become students at the university. In the majority of of cases—not all—one or two years are sufficient to remove all traces of the training so carefully enforced in such matters as order and neatness. Suppose the graduate of such a school has been taught in his external fashion, both at school and at home, to tell the truth. He enters the employment of a man who orders him to lie to his customers. The penalty is dismissal. If the position is a specially promising one, how long will the opposition of a merely mechanically acquired habit like this, last? Evidently when a young man leaves school he must go forth equipped not merely with habits, but also with so profound a sense of the importance of the modes of conduct which they represent that he will value them more highly than what he may lose by his loyalty to them.

The formation of habits, then, in the fashion recommended by Locke in his Thoughts on Education, and all too faithfully followed by many teachers to this day—the formation of habits in this fashion is but one step in the solution of a great problem. It creates at best a machine which when well started would doubtless run on forever if it were not for the existence of friction. But morality involves a conflict with opposing forces, and in this we must depend not upon inertia but life. What is required, therefore, is a spirit of positive and ardent devotion to moral ideals. This alone can beget that loyalty to goodness which prompts to endurance for its sake. "No heart is pure that is not passionate; no virtue is safe that is not enthusiastic," writes the author of *Ecce Homo*. Not that it will ever be possible to dispense with the training, whether self-imposed or imposed by the parent or teacher, that issues in habit. The ideal must make a channel by which it habitually passes over into action, or the outcome will be a weak, nerveless sentimentalist, a nuisance—or worse—to others, and a curse to himself. But if the habit is to stand the test of time the channel must be made by the *ideal*. To create a system of habits rooted in ideals, this, and nothing less than this must be the aim of moral education.

For the development of these ideals the English seem to rely very largely upon "the atmosphere of the school." Here, again, is something which is not merely good but also indispensable, as far as it goes. But it is far from sufficient. The individual leans upon public opinion. When that support is taken away is it certain that he will be found to have learned to walk alone? I think not. Will he have developed independence and intelligence of judgment? Will he exhibit the old habits when transplanted to new fields? Mr. H. Bompas Smith answers the first of these last two questions squarely in the negative. The second he answers by saying that the pupils do not apply the principles in which they have been exercised in the school to their duties as citizens.[3] If so, is it likely that they apply them in any marked degree to such fields as their vocations?

It has been sought to improve matters by introducing opportunities for mutual helps in the life of the pupils, whether in their play or in their school work. Again this is valuable but insufficient. In class room work of practically any sort, great care must be taken that the help offered by one pupil to another is not of the indiscriminate kind which pauperizes the recipient, and the constant necessity incumbent upon the teacher to see that this precaution is observed materially narrows the range of benefactions that may properly be permitted. But even where they are permissible, at the best such services can ordinarily be nothing more than mere courtesies, costing the giver little, developing, beyond question, his "good nature," but making few more serious calls upon character than the ordinary amenities of polite society. Much has been said of the value of common work for a common end. At the great negro industrial school at Tuskegee, Alabama, founded by Booker T. Washington, the pupils have built with their own hands all but one or two of the buildings. This hard toil, continued for months, lasting several hours a day, carried on for a common cause, may well have strengthened in the best of them the enthusiasm for service. But they were making real sacrifices of time and energy, and not as a piece of moral gymnastics, but as the only means by which absolutely necessary accommodations could be provided for themselves and their successors. Such conditions the ordinary school can, under the most favorable circumstances, only faithfully duplicate. But as the cause is, so will be the effect.

Our conclusion is that to obtain the largest results, the methods now most frequently employed must be supplemented by others. We shall present the claims and describe the proce-

[3] See Moral Instruction and Training in Schools, edited by M. E. Sadler, vol I, p. 118, ff.

dure of what we consider the most important of these.

Probably no teacher of the nineteenth century was so intimately acquainted with the nature of the school boy as Arnold of Rugby. Certainly none accomplished so much for the training of his character. Arnold writes in one of his letters :[4] "When I look around upon boys or men there seems to me some one point or quality which distinguishes really noble persons from ordinary ones ; it is not religious feeling, it is not honesty or kindness ; but it seems to me to be moral thoughtfulness." The reason for this conviction is doubtless to be found in the following statement from a sermon preached in Rugby chapel :[5] "He who does not think must surely do one of two things—he must submit himself entirely to be guided by the advice and direction of others, like young children, or else he must certainly go wrong." This assertion may not hold quite true for that comparatively small class of whom Wordsworth sang in his Ode to Duty :

> "Glad hearts ! without reproach or blot
> Who do thy work and know it not."

But no one can deny that it is commonly wrong action that is action along the line of the least resistance ; while observation and sound theory unite to convince us of the truth of the essential element in Arnold's position, namely that it is thought about the issues of conduct that most effectively calls forth the ideals which are capable of conquering the lower passions and the narrower and meaner impulses of our nature. Here, therefore, is suggested a third aim, and implicitly a third method of moral education.

What then is moral thoughtfulness ? It is at once a power and a habit, the power and the habit, namely, of reflecting upon the moral issues involved in conduct. He who possesses it is likely, in the end, to come into possession of most of the information which moral instruction aims to bestow ; what he has learned will not be forgotten ; he will be able to find his way amid circumstances concerning which his instructor has supplied him with no information, and discover the moral issues at stake in situations concerning which his instructor has said nothing. The convictions obtained by the use of his own faculties will be his own property, and the distinction between what he believes and what he believes he believes will disappear. Furthermore what he has gained will be seen by him in its concreteness. This means that its content is realized and its significance apprehended. It therefore tends, through its hold upon the imagination, to kindle strongly the feelings, and accordingly has a much increased chance of passing over into action. When temptation assails him, he possesses a resource which no mere reliance upon habit or public opinion could afford, the strength of reasoned conviction. He does not fight for what he only vaguely feels, but for clearly recognized and definitely appraised values. The deliberate aim of seeking the best becomes incorporated into his programme of life, with the result, as in the case of every clearly conceived and persistently pursued aim, that the interests involved grow more and more precious to him with the passage of time. Thus three things are accomplished : the significance of our every-day actions, their relations to our ideals, are uncovered ; the kinds of action demanded by our ideals are discovered ; and the ideals themselves, in becoming defined and formulated and made the object of our solicitude are broadened in range and strengthened in their hold upon our affections.

This method—the method of training conscience, or moral education, as it might perhaps be called, in the narrower sense of that term,—is not presented as a cure all. Those who pretend to have such wares for sale are charlatans. It is presented as, at most points, the most effective method of supplying information concerning the moral life, and as a method of training the powers which are the ultimate source of reasonable conduct, a method without which the undoubtedly indispensable work of training habits of action will fail to produce the best fruits.

In discussing the methods to be used in developing moral thoughtfulness I shall confine myself to the high school, where alone I have observation and experience of my own to serve as the basis for conclusions. The average pupil enters the American high school at fourteen, and if he completes the course remains four years. The methods appropriate for the first year are quite different from those that should be employed in the last two or three. Limitations of space compel me to confine myself to the latter.

The power and the habit of reflecting upon the moral issues of life can of course be developed only by exercise. The procedure employed will accordingly be systematic class discussion, a discussion led, but never dominated by the teacher. These discussions must be preceded by careful preparation on the part of the pupil. To develop the habit of passing snap-shot opinions upon moral matters would be worse than to attempt to do nothing at all in this field. Ordinarily the subject matter will be supplied by a series of questions, which will be mimeographed or printed and distributed to the pupils in advance. The students should be urged not merely to reflect upon them

[4] The Life and Correspondence of Thomas Arnold, by Arthur Penrhyn Stanley, Vol II, p. 13 (Fifth Edition).
[5] Sermons, Vol. II, No. XII.

seriously by themselves, but to talk them over with their class-mates and parents. There are cases where this has led to the first serious discussion about life between the boy and the father.

Three great questions lie at the foundation of all the more specific ones. The first one is: What, in the circumstances under consideration, is the right course of action? In order to answer this, the pupils must be trained to discover just what these circumstances are in each case. For example, a high school student is informed that one whom he has hitherto regarded as his friend has been lying about him in order to wrest from him some class or athletic honor. The question thereupon arises, What are the real circumstances? The class must be led to discover for itself—and this can be done even with thirteen year old children—that the victim, after having assured himself that the report is true, is bound to ask and answer the following questions: (a) Did he really mean to wrong me (e. g., Was he clearly conscious that what he was saying about me was not true?). (b) Were his statements made deliberately, or on the spur of the moment? (c) Are there any extenuating circumstances in the case, which I should expect others to apply to me, in a like situation, in passing judgment upon me? (d) Have I been wronging him (or others) in any way which would explain and in part extenuate his action? (e) Is it possible that he is already repentant? (f) Is there anything in his home life or other surroundings that should make me judge him more leniently for this fault than I ought to judge myself for a similar offence? (g) Has he done me favors in the past, or shown good qualities which now I ought not to forget? These questions form the prolegomena, but the necessary prolegomena, to the farther problem of how I ought to treat the wrong doer.

Again, the problem of the nature of the circumstances is sometimes that of one's power really to serve in the instance under consideration: and the discussion of it may open up the entire field of self-knowledge. Or again it may be, What are the needs—the real needs—of the parties who make up the given social situation? This, of course, is the problem of opportunity.

The second fundamental question: What is the true nature of the right and the wrong course of action, respectively? The answer to this will be found to involve the use of two categories, similarity and difference, and cause and effect. For example, can the action under discussion be classified as cowardice, or lack of chivalry, or "sponging"? Is it at bottom a case of base selfishness, or disloyalty? Subsumption under any one of these headings will make the action, in a healthy nature, the immediate object of a vigorous abhorrence. In pursuing this subject proper attention will be given to the common forms of false subsumption, as foolhardiness with the devotion to duty which calls for courage, and the prodigality of the spendthrift with generosity. Far deeper go the questions concerning cause and effect: What will be the direct and the indirect effects of adopting each of the possible alternatives permitted by the situation, upon the happiness and character of other persons? What will be the direct and the indirect effects upon the character and happiness of myself?

The third set of questions concerns the attainment of the will to do what is recognized to be right. It includes the following: What are the dangers and temptations to which I am especially subjected because of my circumstances, temperament, tastes, or character? How can I avoid or conquer these temptations? How can I guard against their appearance? Why am I often indifferent, or callous, or even positively malicious? How can I strengthen or weaken the tendencies in me to good or evil respectively? What reasons are there for attempting to do so?

It goes without saying that these three sets of problems cannot be kept entirely separate. We cannot ask what is right in a given case without inquiring about effects: we cannot seek for the reasons for attempting to better one's character without going into this same problem of effects; we cannot learn how to control the temper without finding that first one must discover precisely what the situation is in its completeness, and secondly, what will be the effects upon self and others of indulging in angry feelings or revengeful actions. Nevertheless the distinctions are not without value as points of view. It seems to me that even in the high school we should start, as far as possible, from the code of morals accepted in the community about us. If so, the proper procedure is to take up the specific situation under examination and ask, What is its real nature, what opportunities does it offer? How are my physical, intellectual, and temperamental equipment, and the demands of other situations, related to these opportunities? The next step is to trace the effect of failure and of success in meeting the demands of the situation which is being studied. If this is properly managed, the desire will arise in the better natures to be able to meet such situations successfully when they arise in actual life, and they will accordingly wish to discover how the necessary power is to be obtained.

At some points, of course, the generally accepted code is plainly inadequate. In such instances we can reach the better view by arguing from analogy. Thus it is everywhere recognized that the physician must serve his patient to the best of his ability, even if that patient is too poor

to pay the regular fees. Again universal condemnation would be expressed for a captain that deliberately refused to respond to the call of a ship for help. On the basis of judgments such as these, the pupil can be led to see the duty of service involved in the pursuit of every vocation.

The above questions, however, serve merely to indicate the general outlines of the course. Each topic will have its own special questions. The following, dealing with the subject of veracity, may serve as examples: 1 (a) Is it possible to lie by other means than the use of words, for instance by actions? (b) Can a person lie by keeping silent? (c) By making no statement not in itself literally true, and yet omitting certain of the facts in the case? (d) Did the boy lie who came home at three o'clock in the morning, and told his father the next day that he had come in at a quarter of twelve (three being a quarter of twelve?) (e) What, then, is a lie? 2. May a statement made on insufficient evidence be a lie? 3. What are the consequences of a detected lie, in virtue of its detection, upon (a) the victim, (b) third parties, including, in the end, the community, and (c) the person himself who lied? 4. Do we, by lying, increase—if detected—the chances that others will lie to us? What may be the effects of a lie, whether detected or not, upon the victim? 6 If the lie has passed undetected, are there no consequences to the agent similar in kind to those discovered under 3 (c)? [Refers to the fact that knowledge that a man has told the truth to his own hurt is the great source of our confidence in his veracity. Therefore he who lies to save himself from loss or pain has at least lost an opportunity of increasing the confidence which others repose in him.] 7. What are the effects of a lie, whether detected or not, upon the character of the agent? 8. Does the habit of lying tend to make us unreliable in our statement, even when we intend to speak the truth? 9. What are the effects of lying upon our confidence in others? 10. What are the effects of exaggerated statements, known by all parties to be exaggerated (for instance, a person overwhelms you with expressions of his gratitude at some trivial favor)? 11. Does even a justifiable lie—assuming there is such a thing—have any of the bad consequences already discovered? 12. Is a lie ever justifiable? 13. Should we phrase the last question, "May I ever lie?" or should we rather "Is it ever necessary for me to lie"? And what is the difference between these two formulations? 14. May it be our duty to avoid the appearance of deceit, even when we are not being guilty of any deception? Make some suggestions as to ways in which this may be done in specific instances. 15. By what devices do people often try to conceal from themselves the fact that they are lying? 16. Why are they often genuinely angry when other persons tax them with lying? 17. Why is it considered a deadly insult deliberately to call a man a liar? 18. What are the most common temptations to lie? 19. How can one avoid or conquer these temptations and thus build up a truthful character? 20. What is apt to be the effect upon one's habits of veracity of over-indulgence in eating or laziness? What the effect of self-control in matters of eating, industry, willingness to bear pain or to suffer the loss of amusements for a good reason?—Give reasons for all answers, and supply illustrations wherever possible.

Courses in morals have hitherto dealt solely with duties. We shall find it desirable, however, to enrich them by the addition of a survey of life from the point of view of its values. By this is emphatically not meant a presentation of the conflicting claims of Hedonism and Perfectionism, or of any other ethical "isms" whatever. What is proposed is rather an examination of the different good things in life (*bona*), with a view to training the pupil to form some estimate of their relative value, and to discovering the conditions upon which their attainment depends. Our list of subjects will include the pleasures of sense and amusements, "comfort" as an end in itself, success in the conventional sense of getting ahead of other people, social position, the glow and high spirits that are the product of perfect health, the beautiful in nature and art, the world of knowledge, work, friendship and love (*pax*) the enthusiasm for moral ideals, and, where desired, the religious life. We may conclude with a study of the relation of wealth to the attainment of these different ends.

The study of this subject should be introduced into our course, first because of the direct contribution it may make to the welfare of our pupils; in the second place because their conceptions of value will, through imitation and similar forces, help to determine the ideals of others, and, later in life, as heads of families and as citizens of the state, will guide, in large measure their policy in such matters as education and, to a certain extent, social legislation. In the third place the possession of the various goods has—as will appear from a moment's reflection—a far-reaching series of effects upon character. Sometimes the effects are indirect, but they are none the less important, Thus a common interest in the world of beauty or knowledge is a very effective bond of union between husband and wife, and thereby, of course, strengthens the marriage tie. Furthermore satisfaction in life, as such, apart from its special sources, has normally a most beneficent effect upon character, as tending to develop a kindly feeling toward one's fellowmen,

whereas dissatisfaction and disappointment tend to produce feelings of self-pity, envy, and hatred. In the fourth place the pursuit of the most seductive, and at the same time the least satisfying goods, the pleasures of sense, comfort, social position, and "success," together with their necessary condition in most circumstances, wealth, is the source of the greater part of the wrongdoing in the world. Finally the study proposed will disclose the fact that possession of some of the most precious of these goods is open to man only in proportion as he is pure in heart and unselfish in deed. This is notably true of friendship and love, as was long ago pointed out by Aristotle.

What seems to have proved a satisfactory way of presenting this subject is the following: As the basis of work an essay is taken by some careful student of human life. This is mimeographed or printed and placed in the hands of the pupils, together with a series of questions on the text. These questions are not intended to test the amount of memorizing which the pupil has done. They are intended first to elicit the meaning of the writer: second, to modify or correct his statements, wherever necessary: and finally to supplement them. The essay, in other words, is intended merely to start the pupil thinking. As an illustration a treatment of friendship is herewith presented. It is based upon selections from Books VIII and IX of Aristotle's Nicomachean Ethics. In this case a few explanatory notes upon the text will have to be added for the benefit of the student, dealing chiefly with the author's use of terms.

1. Can you think of other reasons for valuing friendship than those here given? If you can, observe whether in the text which follows they have been anticipated in principle or not. 2. It is easy enough to see why we should congratulate a man who has many friends but why should we praise him? 3. What are the two grounds on which, in Chapter I, Aristotle declares friendship to be valuable? Cf. Bacon's discussion of this subject in his *Essay on Friendship* (No. ...). 4. State the definition of friendship given in Chap. II 5. Illustrate Aristotle's distinction in Chap III between caring for a person because of his usefulness to you, because of the pleasure he may give you, and because you admire him. Does this throw any light upon the distinction between the acquaintance and the friend in the proper sense of the word friend? 6. Is this statement of the grounds for friendship complete, *i. e.*, if the ground upon which the third kind of friendship is based is admiration, can we not admire a person for either qualities besides his character? 7. Is it true that only those who possess a moral quality can admire it in others, *e. g.*, that only the brave admire courage? 8. Can you add anything to what Aristotle says about the importance of the moral element in friendship? 9. Is it true that admiration can by itself create friendship and keep it alive? Does Aristotle say it can.? 10. Is it true that the good man is also useful to his friends and a pleasant companion? 11. Show that both parties to a genuine and permanent friendship must be good men. 12. If Aristotle's general account of the basis of friendship is true, and the best friendships are possible only among the most highly developed persons, can a business man who slaves night and day in order to become rich, or, on the other hand, a mere idler have good friends and be a good friend? 13. Cicero, in his *Treatise on Friendship*, Chapter VI asserts that the existence of another condition of friendship not yet explicity mentioned Friendship he says, consists in "a perfect conformity of opinion on all religious and civil (social and political) subjects, united with the highest degree of mutual esteem and affection" Is this conformity of opinion absolutely essential to friendship? 14. Aristotle asserts that the third kind of friendship (that based on goodness) is necessarily permanent. Is this true? (a) Can it survive radical changes of opinion on the part of either friend? (b) the growth of one mind beyond the powers of the other? (c the desire for novelty, for new minds to explore? 15. (Chap. V) Show that when evil reports circulate about a man of tried character, it will be those among his friends who are the best men, who will be the last to believe them. 16. Can friendship survive the long continued separation of the friends? To answer this question get clearly before the mind the distinction between the friend and the well-wisher. 17. Is it true that in the friendships between the good "complaints and bickerings" are excluded? (Book VIII, Chap. XV.) 18. If it takes time to create friendship, what is to be said of the advantages of friendships formed in youth? What are in general the advantages of such friendships? What are the disadvantages? 19. Can we apply these principles to true friendships between members of the same family? 20. Why is it that family affection or friendship is not more common? 21. Give a list of the minor causes in the way of mistakes in daily intercourse and of defects of character not yet enumerated which tend to destroy friendship and affection.

The University of Wisconsin.

F. C. SHARP.

LITERATURE OF THE ROMANTIC AGE. 1798—1832.

Macpherson's *Ossian* (1760—63) and Percy's *Reliques of Ancient English Poetry* (1765) are two momentous works, in as much as they were largely instrumental in raising the standard of revolt against Classicism. Both were equally important in the matter of the promotion of the cause of Romantic Revolt. Their influence was universal. *Ossianism* was marked in Goethe, in George Sand, in Herder, in Châteaubriand, in Schiller, in Hugo to a certain extent, and also in Coleridge and in Byron. Percy is dominant in Chatterton, Scott, Wolfe, Bürger, Goethe, Schiller and Coleridge. These two works, according to Charles Edwyn Vaughan served "to deepen the strain of sadness still

further, to strengthen it with the swift rush of tragic action, to charge it with the wail of wistful longing, with the ruffled heat of despondency and despair."

These two works combined forces and helped to deepen and widen the range of human passions, and brought men once more face to face with the supernatural. Their special work was that they taught men to appreciate the undying poetry attaching to the legends, and traditional stories and folklores.

So far the work of the revolutionaries had been carried out in silence. But war was proclaimed in 1798, when *Lyrical Ballads* was published. "From Thomson to Burns and Blake the reaction against the ideals and methods of classical poetry had persistently grown in strength. A new world of song had been silently built up, before which the classical models paled into insignificance". [1] And *Lyrical Ballads* is a clear avowal of the ferment against the School of Pope.

Lyrical Ballads may thus be taken as the "Magna charta of the re-enfranchisement of English poetry", and the year 1798, the date. I quote here the genesis of this wonderful work from Wordsworth's own words :

"In the autumn of 1797, Mr. Coleridge, my sister and myself started from Alfoxden pretty late in the afternoon, with a view to visit Linton, and the valley of stones near to it, and as our united funds were very small, we agreed to defray the expense of the tour by writing a poem to be sent to the *New Monthly Magazine*. In the course of this walk was planned the poem of the *Ancient Mariner*, founded on a dream, as Mr. Coleridge said, of his friend Mr. Brinkshank. Much the greatest part of the story was Mr. Coleridge's invention ; but certain parts I suggested ; * * * As we endeavoured to proceed conjointly our respective manners proved so widely different, that it would have been quite presumptuous in me to do anything but separate from an undertaking, upon which I could only have been a clog. The *Ancient Mariner* grew and grew, till it became too important for our first object, which was limited to our expectation of five pounds ; and we began to think of a volume, which was to consist, as Mr. Coleridge has told the world, of poems chiefly on supernatural subjects, taken from common life, but looked at, as much as might be, through an imaginative medium."

"This volume of *Lyrical Ballads* was published in the autumn of 1798, by Mr. Cottle, at Bristol. It contained several poems which have been justly blamed for triviality,—as *The Thorn*, *Goody Blake*, *The Idiot Boy* ; several in which, as in *Simon Lee*, triviality is mingled with much real pathos ; and some, as *Expostulation and Reply* and *The Tables Turned*, which are of the very essence of Wordsworth's nature." [2]

The importance of the *Lyrical Ballads* consists in the fact that it is the only volume in which Romantic notes are heard as sung with "full-throated ease." In the prefaces of the subsequent editions, Wordsworth explicitly laid down his theory of poetic diction. He wished to sweep away all distinctions between poetry and prose, and liberate poetry from the rigid bond of the Augustans, in whose hands it had become no better then rhymed prose, His object was to take back poetry to its pristine condition—consisting in passion, vividness, and wealth of imagination, which the Augustan School had ousted wholesale. "The Lyrical Ballads therefore are to modern poetry," says Prof. Wyatt, "what Rossetti's 'Anunciation' is to modern painting ; they enriched the world of English poetry as no one volume has since done." *Lyrical Ballads* may, therefore, be taken as the ultimatum of the Romanticists against the Augustan School. But the thing which strikes one most is that it is the point where the two great poets meet. Each had his strong point, and each supplied the defects of the other. So that, they are complement of each other ; and the force of *Lyrical Ballads* is the resultant of two different forces—Wordsworth and Coleridge. The two poets had very little in common ; but their combined influence was irresistible. Coming in contact with Wordsworth's loftier genius "Coleridge rose from a fourth-rate poet to one of the first order." With the exception of a few, Coleridge produced all his best poem during the first two years of this significant friendship. Nor did Coleridge stand a debtor, he too, had something to offer to his friend. The contact with the staid and unconcerned mind of Coleridge, drove away all morbid ideas of Wordsworth—ideas which are the offsprings of the gloomy thoughts and broodings about the French Revolution.

" Wordsworth is the incarnation of the romantic spirit ; Coliridge to all apperance, was the most uncompromising of realists. It is well, therefore, to remember that what Coleridge rather insists upon is the unity of aim, which lay behind these divergences of method and manner ; and that, while professedly describing the object he had proposed to himself in the Ancient Mariner, he insensibly uses the same terms, which, in the next breath, he applies specifically to the poetry of Wordsworth." [3]

The special feature of this wonderful period extending over more than 30 years of space, may

Charles Edwyn Vaughan.

[2] Myer's *Life of Wordsworth.*
[3] Vaughan.

be thus summarised: First Interests were aroused in the old ballads, and stories and traditional lores and folk-tales, for which Percy is to a large extent responsible. Second. Many reviews and magazines were started, which were largely instrumental in promoting the cause of the period. *Edinburgh Review*, *Quarterly Review*, and *Blackwood's Magazine* all belong to this period. Third. Shakespearean critics like Coleridge, Lamb and Hazlitt—all first rate—are of this time. There was, moreover, a large harvest of general critical literature. Fourth and last. There was a large output of novels, in connection with which, scott's name comes uppermost.

Another and a most remarkable feature is the influence of Germany. Scott translated Burger and Goethe Coleridge made an English version of Schiller's "Wallenstein." Carlyle, in 1824, translated Goethe's 'Wilhelm Meister,' and wrote a *Life of Schiller*, next year; and compiled a volume of "Specimens of German Romances." De Quincey contributed German Prose Classics in the Blackwood's Magazine. The German influence acted as a leading power of the morbidity of classicism. Wordsworth owed as much to Germany as Coleridge did: and even among the Victorians, Mathew Arnold had his share of the Germany.

The diffuse and all-embracing character of the subject is too much, to my mind, to make it compatible with the aspirations of the present attempt, to enter into details. All one can do, under the circumstances, is to particularize only so much as would help to stimulate interest and desire for further study of the subject in the minds of the student. Only most important names will be mentioned and their characteristics carefully marked: and hints will be thrown. Keeping this scheme before us, it seems convenient to tackle with the subject resolving it into its necessary component elements—poetry and prose.

(To be continued.) A J A X

REVIEWS
AND MINOR NOTICES.

History of English Literature. By Andrew Lang. (London: Longmans & Co. Price 6 s.)

The author in his preface says that his object has been to arouse a living interest in the books of the past and to induce the reader to turn to them himself. This is surely the correct view and should be the end for which all books on literature should be written, for "it is better to study even a little of the greatest authors than to read many books about them." The book is written in delightful style and with a sense of proportion. The unity of the whole is well preserved. We can very well recommend this volum for the use of our students of literature. Th price is also moderate.

Education and Citizenship in India by Leonar Alston, Litt D. Director of Non-coll students Cambridge, formerly Professor at Elphinston College Bombay. (London: Longmans & Co Price 4*s* 6*d net.*)

This volume is the outcome of a dissertation b the author on a subject propounded for the Mai land Prize, Cambridge 1909—"The teaching o experience in India on the question how far secula education can foster a sense of duty." Dr. Alsto himself acknowledges that it "can hardly be sai to have received an answer in this volume." Th author has tried hard to come to a definite co clusion but has failed to do so. He discusses th question of the connection of education with pol tical unrest; but as one opinion is as good a another, there is no solid conclusion. However, th very tangle of opinions may stimulate the read to attempt a disentanglement.

Systematic Course of Practical Science by A. W Mason B. Sc. (London: Rivingtons. Price *1s 6 net.*)

The chief aim of the series is to train the pup in *scientific method* and to develop a feeling of re sponsibility and initiative. Every effort is mad to make the pupil realise that he has *something* to *do* and that it is his duty to exert himself for th proper carrying out of the work. Special feature of th book is the arrangement and tabulation of results the drawing of diagrams and of graphs. We can re commend this book for the use of our Intermediat Science Students.

British History from the earliest times to th present day by L. cecil Smith. (London: Rivington Prie Part I. 2*s*. 6*d*.)

The author has endeavoured to produce a te book which shall be both *clear* and *sound* whic shall give to the boy who is not going to specialis on History an elementary knowledge sound so fa as it goes, and to the boy who is reading mor seriously, opportunities for deeper and wider re search. It is a nice little volume very muc suitable for our Matriculation boys and the Inte mediate students as well.

Essentials of Hinduism. Price As. 8. (Messr G. A. Natesan and Co. Madras)

We have received from Messrs. G. A. Natesa & Co., Madras one more of their many usefu publications. *Essentials of Hinduism* is a co lection of articles that appeared originally as symposium in the columns of the *Leader* Allahabad. They have been brought under on cover in the hope that an authoritative declara tion as to the "Essentials of Hinduism" by lea ding Hindus may be read with interest.

SCIENCE NOTES.

Dr. Filippo de Filippi has submitted to the Council
the Royal Geographical Society a plan for a scientific
expedition which he has projected to the Wes-
entific tern Himalayas and Karakoram and for
pedition which he has already obtained a large pro-
the portion of the funds that will be necessary.
horam. The Council has expressed its appro val of
portant Dr. de Filippi's plan.
eme of
search.

Dr. de Filippi's name is well known
connexion with three of the great expeditions which
ve been so successfully accomplished by the Duke
the Abruzzi, first to Mount St. Elias in Alaska,
ond to Mount Ruwenzori in Central Africa and
itly to the Karakoram Mountains. The expedition
w proposed, if carried out on the plan which he has
awn up, will probably be the most important from
e scientific point of view that has ever entered the
imalayas. The problems under investigation concern
pography, geology, gravity, magnetism, and the
rious forms of radiation thermical, photochemical,
hotoelectrical, light polarization, &c., atmospheric
ectricity, potential gradient electric conductivity,
duced radio-activity, penetrating radiation and
nization of the air). To these subjects would be
dded studies in meteorology, with the special view
f investigating the higher atmosphere with kites
arrying self registering instruments sent up from
tations of high altitude. The special physical charac-
eristics of the Himalaya Karakoram region, added to
he comparative facility with which high altitudes can
e reached in it, to the dryness of the atmosphere,
c., afford unique opportunities for these researches.

It is proposed to carry on the investigations from
Kashmir, over the Himalaya range, and through
Baltistan and Ladakh into Chinese Turkestan. Dr.
eFillippi intends to take advantage of the occasion
fforded by the expedition to explore and map the
till unknown portion of the Karakoram pass. It
would be a matter of the greatest interest in this
district to look for a continuation of the great sedimen-
ary (limestone) formation discovered by the Duke of
he Abruzzi in the Baltoro basin and by Dr. Longstaff
nd the head of the Siachen glacier. The plan entails
wintering in Baltistan or in Ladakh; and the expedition
would extend over a period of something more than a
ear. The amount necessary to cover the expenses of
uch an enterprise is about £10,000. Of this sum
6,000 has already been contributed (£4 800 in Italy.)
t is hoped that the amount necessary to complete the
um may be subscribed.

Dr. A. Steichen, professor ot physics at St. Xavier's
ollege, Bombay contributes the "Indian Medical
Gazette" a paper on the radio-activity of
adio ac- some wells and thermal springs in the
ve Springs Bombay Presidency and in Baroda State.
Bombay. In it he states that in radio-therapeutics
the inhalation of the emanation of radi-
m is much used and even special apparatuses are
evised for this purpose. At Tuwa, Vajrabai, and
Inei comparatively large amounts of emanation are
iffused in the air by day and by night. One
might therefore expect that the inhalation alone of
this air would have a beneficial effect on the
organism especially if suitable arrangements were
made to prevent the emanation from being carried
away too quickly by the wind. In this way India
mightget some day a number of excellent sana-
toria. More over it is a well known fact that the
treatment of patients with radio active water is most
successful near the springs. In their present condition
the thermal springs in India are of very little or no
use whauever. This state of affairs cannot be allowed
to continue. Thermal springs have proved a great
boon to Europe. There is a widely spread belief
amongst medical authorities thaf the thermal springs
in Europe owe their efficacy to their radio-activity.
If this belief is correct and there are good reasons to
suppose that it is, the thermal springs in India are also
worth tuging.

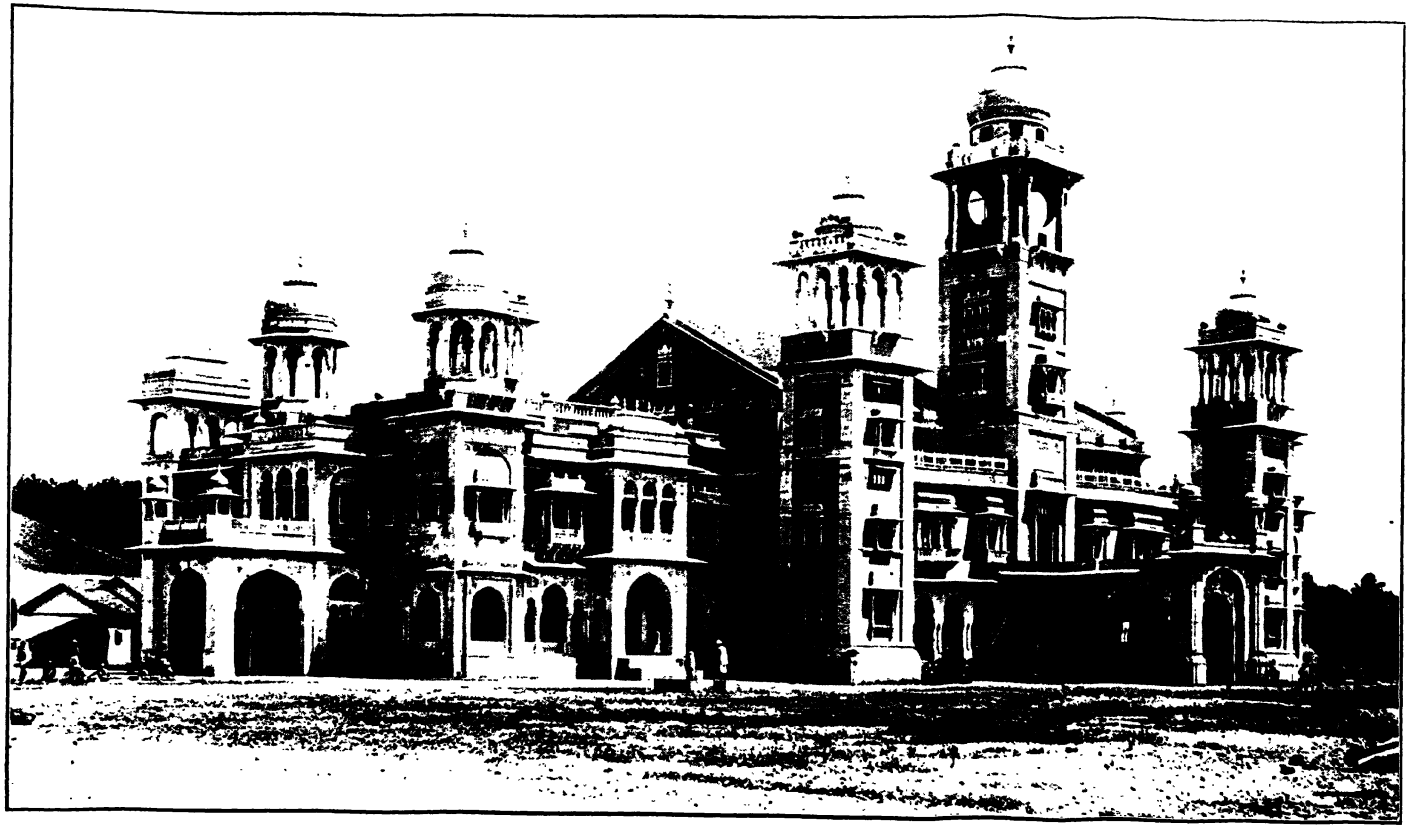
SPORTING.

Plans for Coliseum—Yale's Mammoth Amphitheatre.

Of the Inter-Collegiate games in America, Foot
ball is the most popular and attract the larges
number of people to the scene of the gridiron
contest. The big games—such as Harvard Yale
Yale-Princeton and Harvard-Princeton—are
visited by about 40,000 people every year, though
a single seat in the galleries costs $ 2 (Rs. 6
4 as). The biggest game appears to be that be
tween Harvard and Yale, the Oxford and Cam
bridge of America, which attracts over 40,000
people. Thousands of people are moreover shu
out from the privilege of visiting this game for the
lack of proper accommodations. Yale has tried
to solve this difficulty by building a permanen
structure with a seating capacity for 60,000 people

Tentative plans for a coliseum in New Have
to take the place of the present wooden stand
on Yale Field have been approved by the Advisor
Board of Architects, and construction will probabl
begin within a month. A committee is now
work settling the details of the project. Th
structure will seat about 60,000 people, and it
cost is estimated at $300,000. A circular lette
has been sent out to the alumni requesting contr
butions, and the replies will largely determine th
rapidity with which work will progress.

The coliseum is the main item in an extensiv
program for improving athletic facilities at Ne
Haven. One hundred acres of land have alread
been acquired, at a cost of $140,000, opposite th
present field and the work of grading has com
menced. An adequate club house will eventual
be erected on a part of it. The coliseum, howeve
is first in order, and it is hoped that it will l
completed by next fall.



ALLAHABAD UNIVERSITY SENATE HOUSE.

(Opened August 3, 1912, by Sir John Prescott Hewett, G.C.S.I., Lieutenant Governor of the United Provinces of Agra and Oudh).

[By the Courtesy of the Editor, "Empress."]

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AND PROGRESS OF INDIA.

CALCUTTA, SATURDAY, JANUARY 18, 1913

Allahabad University Senate House

WE are glad to insert as a frontispiece to this issue a photo of the Senate House of the Allahabad University which was opened by Sir John Hewett on August 3rd 1912 (*Vide* Vol. II Page 254). The opening of the Senate Hall marks an era in University Movement in India for now all the five existing Universities have their own homes. The foundation stone was laid on the 17th January 1910. The necessity of such a building was explained by Sir Henry Richards the then Vice-Chancellor; it was a reproach that has been removed. Two other buildings viz. The University Library and the Law College are in the course of construction. The main building is 376'-8" long and 175'-6½" deep. It comprises a large central Hall for Convocation and Examinations (130'×60'), with two Halls adjacent (each 52'×36') for the meetings of the Senate or faculty and committees. For Convocation purposes the Main Hall and the side end galleries provide about 11,304 square feet. The galleries and projecting balconies afford convenient places for spectators. For Examination purposes allowing 25 square feet for each student, the main hall will accommodate about 372 students, and the two extra Halls 74 each, making a total of 460. There is a clock tower in the centre of the Main Front. The clock (not shown in the photo) is about 100 feet from the ground and its Dial about 10 feet diameter with opal glass fitted with electric light. The height of the Main Hall from the floor to the ceiling is 50 feet, and of the halls at each end 42 feet. The appearance, looking through the lofty connecting arch, from one end of the building to the other, more than 250 feet in length, presents a grand *vista*. In the upper floor there are waiting rooms, Registrar's and Assistant Registrar's rooms. The estimated expenditure has been about five lakhs and half.

The Dacca University Committee's Report

We beg to draw the attention of our readers to the new section "Dacca University" opened in our columns. We hope to publish extracts from the Report and comments thereon, and expect our contributors will come forward with their reviews and criticisms. His Excellency the Governor in Council will take the report into consideration on the 15th of February, before that date we would have two issues of the journal (No. 2 January and No. 1 February) in which we may publish the criticisms.

* * *

The Hon'ble Mr. R. P. Paranjpye

We are glad to note that the Government of Bombay have nominated Mr. R. P. Paranjpye, the Principal of the Poona Fergusson College, as an additional member of the Provincial Legislative Council. Mr. Paranjpye will, we are sure, be a tower of strength to the Independent and progressive party in the council.

* * *

Technical Institute for Calcutta

The following official *communique* has been issued by the Government of Bengal :—

The representative committee appointed last cold weather to advise on the creation of a Technological Institute in Calcutta, and on allied subjects, recommended the establishment of a large institute in the centre of Calcutta, a separate, well-equipped College of Engineering and a Mining School at Asansol. A small departmental committee has since been engaged in elaborating the details of the proposed Calcutta Institute in communication with employers of all sorts of labour, and although their task is not yet complere, the main features of the scheme which they are prepared to recommend have been determined. They propose to include in the Institute various departments of engineering, textile fabrics (jute and cotton) chemistry (including, *inter alia*, dyeing and industrial research), printing and possibly process work, commercial subjects, and a women's department with a commercial branch and a branch for millinery and dress-making. In the case of mechanical and electrical engineering it is proposed that in addition to the general courses opportunities should be given for higher training leading up to a University degree. The committee think that accommodation should be found for the Institute in extensive premises in or near the business centre of the city and they suggest that its equipment should include a library, a gymnasium, dining, reading and recreation rooms and some residential quarters. The scheme, when submitted in a complete form, will be published for information and public opinion will be consulted before it is taken into final consideration by the Government of Bengal.

* * *

All India Mahomedan Educational Conference

The All India Mahomedan Educational Conference held its sittings at Lucknow on the 28th, 29th, and 30th December 1912. It was presided over by Major Syed Hasan Bilgrami, M. D., I. M.S. (retd). His Honour the Lieutenant-Governor of the United Provinces was present during the morning session of the 28th December which was occupied entirely by the President's speech, followed by a few remarks by His Honour, who said he wished to express thanks for his welcome and pleasure at the eloquent speech. He said there were expressions in the speech with which he could not agree, and he was sure that there were things he could say with which the President would not agree, but that did not prevent free comment and frank speech. Referring to a remark of the President, he said that whatever had happened there was no suspicion between Government and the community. As long as Government spoke frankly to the community and the community to the Government, so long there would be mutual confidence.

In his Presidential address Major Syed Hussain Bilgrami prefaced his remarks on education by quoting the words of the King-Emperor, which, he said, constituted the "Magna Charta" of the educational future of this country. Passing to the Muslim University, the President said that the decision of the Secretary of State had given the "coup de grace" to the movement. He criticised adversely the conclusions of the Constitution Committee, but said that in consenting to various vetoes in the Constitution they had contemplated their exercise by their own Chancellor. The transference of these powers made the University practically a Government institution instead of a communal one. The attitude of Government he said, betrayed an amount of suspicion and distrust of the community which was not justified either on theoretical grounds or as a result of past experience. Even if Government conceded the right of affiliation, he would still advise the rejection of the scheme, as affiliation would be useless without control. It was said the Hindus had accepted the Government scheme. But after all that community had not an Aligarh College to lose. The President then went on to discuss what would be done to make the Aligarh College more useful to the community under present conditions until such time as the Secretary of State thought fit to grant a charter without the existing limitations. He suggested it should specialise in Oriental learning especially Arabic and other Semitic languages, in which in the course of a few years it might become a recognised authority for the whole world. He also insisted on the importance of the knowledge of English, and a working knowledge of French and German, or both, in order that the

literature of those three countries could be available to Moslem students. In conclusion, he urged the vital importance to the community of Commerce and Industry. They were not taking their proper share iu the economic development of their country, and if they failed in that they failed in everything. He ended with a tribute to the British Government for the favourable conditions under which the people were working out their economic salvation.

* * *

Tamil Lexicon

THEMadras Government with a view to develop a scheme for the compilation of a new lexicon of the Tamil language, have entrusted the work of controlling and supervising its preparation and publication to the University of Madras. A representative Committee has since been appointed for the purpose.

* * *

A new F. G. S.

Mr. Kiran K. Sen Gupta, M. A., B. Sc., State Geologist in Cochin, has been elected a Member of the Mining and Geological Institute of India, and a Fellow of the Geological Society of London.

* * *

Subscriptions to the Girl's School for Delhi

The following subscriptions are announced in aid of the Girl's School for Delhi :—H. H. the Nizam Rs. 50,000 ; H. H. the Maharani of Gwalior Rs. 50,000 ; H. H. the Dowager Maharani of Gwalior Rs. 1,50,000 ; H. H. the Begum of Janjira Rs. 3,000 : H. H. the Rani of Rajgarh Rs. 2,000 ; H. H. the Rani of Narsingarh Rs. 3,000 ; H. H. the Rani of Dhar 5,000 ; Quisar Dulahin Sahiba of Bhopal Rs. 7,000 ; Shahryar Dulahin Sahiba of Bhopal Rs. 5,000 : Shah Rano Begum Sahiba of Bhopal Rs. 5,000 ; Sir Valentine Chirol of the "Times," London Rs. 75 : H. H. the Begum of Bhopal Rs. 1,25,000.

* * *

Calcutta Mathematical Society

An ordinary monthly meeting of this Society was held at the Calcutta University Senate House on the 31d ultimo at 4 p. m. The Hon. Justice Sir Ashutosh Mookerjee was in the chair. The following gentlemen were proposed for election as ordinary members of the Society :—Rai Bahadur G. N. Chakervarti, M. A., Inspector of Schools, Allahabad ; Mr. Mahendra Nath Dutt. B. E., Assistant Engineer. P. W. D., Sambalpur. The following gentlemen were elected as members :—Mr. P. Raghabendra Rao and Mr. B. Lakshman Rao. The following papers were read at the meeting :—On a novel solution of Pell's equation, by Prof. H. de S. Pittard, M.A. ; On Equi-Brocadian triangles, by Prof. J. C. Swaminarayan, M. A.

* * *

The following is a precis of Communications made at the adjourned monthly general meeting of January 8th.—

Asiatic Society of Bengal

1. On a new Series of Double Sulphates of Barium and Heetro-cyclic Ammonium Bases. By Rasik Lall Dutta and Haridas Sen. Part 1. Communicated by Dr. P. C. Roy.

Compounds of barium sulphate with pyridine sulphate, quinoline sulphate have been prepared, of the general formula $M_2H_2SO_4 . n Ba SO_4$. M, representing the base.

2. The A-ch,ang (Maingtha) Tribe of Hohsa-Lasha, Yunnan- By J. Coggin Brown, M.A., B. Sc.

The A-ch;ăngs are one of tbe smaller groups of the lesser known tribes of the Burma-China frontier. Their headquarters are in the twin states of Ho-hsa and La-hsa in the western part of the province of Yunnan, China.

The exact position of the A-ch'angs in the generally accepted scheme of racial classification is a matter of controversy amongst Indo-Chinese anthropologists, and the whole question is reviewed in this paper in the light of further evidence obtained by the author during a short residence in their country.

It concluded that the grouping of the A-chang with the Maru, Zi, Lashi and Hpon tribes is correct.

In view of the fact that these and similar tribes are being absorbed with an amazing rapidity and that the opportunity for research cannot last much longer, further work is urgently pleaded for. The sympathetic study of these dying races is of the greatest importance, if we are ever to slove the problems of the origin and early movements of the Burmese, and the dependent questions connected with their civilization and culture.

3. House Flies and Blood-sucking Dipetra taken in Galilee in October, 1912 by Dr. N. Anandale. By E. Brunetti. Communicated by the Natural History Secretary.

The following blood-sucking flies were obtained :—Philaematomyia insignis Aust., Stomoxys calcitrans L., Lyperosia minuta Bezzi and Hippobosca equina L. The common house-flies were found to be Musca domestica L., Musca sp. and Limnophora tonitrui Wied, Separate reports will be published on the Culicidæ and Phlebotomus,

4. A Forgotten kingdom of East Bengal. By Nalini Kanta Bhattasali, M.A, Communicated by the Hon. Justice Sir Asutosh Mookerjee, Kt.

This paper gives some account of the City of Karmanta (Kamta near Comilla) which was the the Capital of the Kingdom of Somatata where the Khadga family is said to have reigned in the 7th century, A. D.

5. Papers on the Biology of the Lake of Tiberias No. II. Notes on the Fish, Batrachia and Reptiles.

The fish fall into four geographical groups as follows :—(I) Palestinian species; (II) African species; (III) Asiatic species and (IV) Mediterranean species. The first group is the largest and last the smallest; the African group forms an important element in the fauna. The Palestinian race (rufus Heckel) of Discognathus lamta (H.B.) differs in Minor characters from the typical race from Bihar. The Batrachian and Reptillian fauna of the lake if a poor one, including only five species. With the exception of a local race (savignyi Aud.) of the European Tree-frog (Hyla arbora Linn.) these animals occur also in Eastern Europe and have a wide or fairly wide distribution in South-Western Asia. The range of H. arborea savignyi extends from Asia Minor to Egypt.

EDUCATION IN BURMA.

THE report of the Director of public instruction in Burma for the quinquennium ending 1911-12 records normal progress in every department of education. The total expenditure on public schools throughout the province stood at Rs. 47,36,641, an increase of nearly Rs. 12,50,000 on the expenditure at the end of the previous quinquennium. Of this expenditure, Government schools are responsiblefor Rs.9,21,345. aided schools for nearly Rs.24,50,000, and district cess and municipal schools for Rs. 1,30,346. Of the increment in income almost one-half comes from fees, while Rs. 1·75 lakhs are derived from subscriptions, endowments and other miscellaneous private contributions. The rest is made up by Rs. 2,88,292 contributed jointly by provincial funds and the Government of India Rs. 1·5 lakhs from district funds and Rs. 40,000 from municipalities. Of the total almost Rs. 31 lakhs represent direct and Rs. 16 lakhs indirect expenditure. As regards general heads of direct charges the largest increase is shown under secondary schools, on which Rs. 6,48,115 are now spent in excess of the corresponding expenditure of 1906-07. The total expenditure on secondary schools is thrice as much as that on primary schools, on which the increment during the quinquennium was under a lakh. On training schools a rather heavy increase of Rs. 80,000 is shown but this has been described as being due to enhanced provision for increased and improve staff. The falling off on collegiate expenditure noted in the preceding quinquennium has been made up, the total expenditure on arts colleges having risen by Rs. 53,481. A sum of Rs. 8 lakhs was allotted in March 1911 for being expended principally on buildings and equipments; and in addition to this the education department received Rs. 2·5 lakhs as their share from the education grant of Rs. 50 lakhs announced by his Imperial Majesty at the Coronation Durbar. It has, however, been estimated that a 'capital expenditure of Rs. 1 0 lakhs per annum for several years and an annual recurring expenditure which at the end of three years will not be less than Rs. 20 lakhs, are needed in order to bring every branch of education in Burma up to the standard which the Government of India has set before them. The Burma Government is of opinion that this sum is far beyond the means of a province which had many other urgent claims to meet.'

During the period under report there were two arts colleges in the province with 302 male and 22 female students. The only law school had but 10 students. During this period a Government medical school was started, which had 42 pupils on the roll. Apart from this, 32 Burmese medical students were attending the Royapuram medical school at Madras; and at the Calcutta Medical College there were 7 male and 3 female scholarship-holders from Burma. One noticeable thing appears to be the proceeding to Dublin to read for the Fellowship of the Royal College of Surgeons of a Burmese female student after completing the Calcut a Medical College course. There were during the period 869 secondary schools for males with 65,786 students and 82 for females with 19,535 scholars. Of primary schools there were 4,764 for boys and 552 for girls with 1,25,552 and 55,854 students respectively. Besides these there were 16,610 elementary private schools with 1,71,4,38 boys and 3,507 girls on their rolls. Of training schools there were 8 for males and 4 for females with 287 and 169 students respectively. The percentage of institutions to the numbers of towns and villages was 61·5 and that of the male and female scholars to the male and female populations of the school-going age were 32·44 and 8·93 respectively. The Burma Government is of opinion that there exists throughout the province the necessary machinery for the education of almost every body of school-going age. 'The buildings are there, the teachers are there, and the parents, even of the poorest classes, display no reluctance to send their boys to school and would probably receive an order making it compulsory for them to do so without surprise and without demur'—says the Burma Government Resolution on the report. This is no doubt a strong argument in favour of Mr. Gokhale's elementary educations scheme. There was during the period a marked increase in the education of Mahomedans the total having risen from 10,965 in 1906-7 to 14,553. At present of the possible Musalman going population nearly 25 per cent., is at school. In India theproportions of literate females are 5 and 3 per 1,000 for Hindoos and Mahomedans respectively. In Burma they are 53 and 77 per 1,000 for Hindus and Buddhists, and Muslims respectively.

THE UNIVERSITIES

Calcutta University

Special Senate Meeting, 4th January 1913.

A SPECIAL MEETING of the Senate of the Calcutta University was held at the Senate House, on 4th January. Sir Asutosh Mookerjee, Vice-Chancellor, presided and there was a fair attendance of Fellows.

Three New Honorary Degrees

The only item before the meeting was to confirm the recommendation of the Syndicate that Honorary Degrees of Doctor of Literature, Doctor of Science, and Doctor of Law, be conferred on Professor Herman Oldenberg, Dr. Andrew Russell Forsyth, and Sir Tarak Nath Palit respectively.

Vice-Chancellor's Speech

The Vice-Chancellor, in moving that the recommendation of the Syndicate be confirmed, said :—

I feel confident that the propositions which I shall presently place before you for acceptance do not stand in need of any justification from me. Professor Oldenberg, upon whom it is proposed to confer the Honorary Degree of Doctor of Literature occupies the Chair of Sanskrit in the University of Gottingen, and is one of the greatest living authorities in his special department. He is *facile princeps* among the Vedic Scholars of the West, and at the same time stands in the front rank of authorities on Buddhism. No complete enumeration of his very numerous papers and works can be attempted here ; but reference may be made to some the highest importance. His work on the Life and Teaching of Buddha, which has been translated into English and several other languages continues to hold its place as the most critical and at the same time most interesting book on Buddha. His work on Vedic religion is one of the most thorough and decidedly the best written work on the subject ; while his Prolegomena to and his great Commentary on the Rigved Sanhita represent the ripest fruit of Westren critical Vedic Scholarship. His editions of the sacred books of the Buddhists afford at the same time conclusive testimony to his eminence as a Pali scholar. His Scholarship linguistic, philological, historical, antiquarian—is wide and at the same time minute. He is unwearied in collecting masses of data and material, but never fails to analyse and combine them with consummate critical skill and acumen. In fact he deals with his material in the spirit not only of the critic and scholar but also of the philosopher, not shrinking from the investigation of tedious details nor losing sight of the wider and more important aspects of the problem His insight into ancient phases of thought and belief is as keenly penetrative as it is deeply sympathetic; and it is in this field that he has achieved his greatest successes. To all this he joins a rare gift of eloquent, often truly brilliant, exposition. The total sum of his endowments and performance fully justifies the assertion that the position which Professor Oldenberg occupies as an Orientalist is unique.

Dr. Andrew Russell Forsyth stands in the foremost rank of modern mathematicians, and his name is held in the highest regard wherever Pure Mathematics is cultivated. Indeed, it is superfluous to dilate upon the qualifications of one who was, for more than fifteen years, a brilliant occupant of the Sadlerian Chair of Pure Mathematics in the University of Cambridge. His works on the Theory of Differential Equations and Theory of Functions have completely revolutionised the study of these subjects, while his treatises on Differential Geometry are recognised as the leading text-books in these departments; the former of these has been translated into German, and the English edition as well as the German version, has passed through several editions. His original papers which embody work of the highest order contain presentations of new theories with remarkable clearness, and he has discovered with almost intuitive insight, the Geometrical significance of abstruse analytical theorems. The Universities of Oxford Dublin Manchester, Liverpool, Glasgow, Aberdeen and Christiana have vied with each other in conferring upon him an Honorary Degree in recognition of the value of his mathematical contributions and it would be singularly inappropriate if we fail to honour him while he is in our midst.

Finally as regards Sir Tarak Nath Palit, upon whom it is proposed to confer the Honorary Degree of Doctor of Law, it is only necessary for me to remind you that he had quite a distinguished position as an eminent member of the legal profession. Indeed it was his brilliant success at the Bar which enabled him to lay the foundation for that wealth which he has so unstintedly placed at our disposal for the establishment of the University College of Science. His princely munificence has earned for him the lasting gratitude of all persons interested in the progress of education in this country, and will serve to hand his name down to posterity as that of the greatest benefactor of an Indian University

Sir Gooroodas Banerjee's Speech

Sir Gurudas Banerjee said he had much pleasure in seconding the proposition which had been moved in such fitting terms from the chair Regarding Sir Tarak Nath Palit whom he had known for nearly half a century he might be permitted to say a few words in detail. Sir Tarak Nath was not only a profound lawyer but also a profound metaphysician and an erudite and accomplished English scholar. His was a mind endowed with a rare combination of massive strength and subtle acuteness, improved by culture, which was deep and varied and ever animated by the love of justice and truth. A man of such intrinsic qualification was bound to be a leader of the Calcutta Bar. In conclusion, Sir Gurudas said a man with such lofty attainments and actuated by such noble instincts was an honour to the community to which he belonged

The Election

THE Calcutta University Election for the Bengal Legislative Council concluded on January 4th 1913 at the Senate House with the result that Dr. Devaprasad Sarbadhikary got 88 votes, Principal Heramba Chandra Maitra 43 votes. Dr. Sarbadhicary was declared duly elected.

Fellows

PROFESSOR Jnan Chandra Ghose M. A., and Kaviraj Jamini Bhusan Sen M. A., M. B., have been elected Fellows of the University by the Registered Graduates.

University Readers

The Syndicate of the Calcutta University recommends that with effect from October next, Mr. G. Findlay Shirras, M. A., be appointed University Reader on "Some Recent Developments in Indian Currency and Finance." It is also proposed to appoint, with effect from October next, Prof. J. N. Das Gupta to be University Reader on "Bengal in the Sixteenth Century."

Premchand Roychand Studentships

BABU Romesh Chandra Mazumdar, M. A., of the Presidency College, has been awarded the Premchand Roychand studentship in literary subjects for the year 1912, by the Calcutta University. The P. R. Studentship for scientific subjects has not yet been awarded.

Examiners in Law, 1913 :—

Preliminary Exam. in Law

The Dean of the Faculty of Law—President, Ex-officio. Jurisprudence : N. N. Gupta Esq., P. N. Chatterjee Esq. Roman Law and Theory of Legislation : M. N. Basu Esq., P. K. Chakrabarti, Esq. Hindu Law : Babu Jyotiprasad Sarbadhikari, Babu Haraprasad Chatterjee. Buddhist Law : Maung Kyn Esq.

Intermediate Exam. in Law

The Dean of the Faculty of Law,—President, Ex-officio. Mahomedan Law and Personal Law : Shamsul-ulama Mahomed Yusoof Khan Bahadur, Maulvi Muhammad Mustapha Khan, Babu Krishna Prosad Sarbadhikari, P. N. Datta, Esq. Transfer of Property : Babus Birajmohan Majumdar, Karunamay Basu, Samatulchandra Datta, Mohinimohan Chatterji. Real Property and Succession : B. K. Acharyya, Esq., S. M. Bose, Esq., Babus Asutosh Mukerji, Hiralal Chakrabarti. Contracts and Torts : P. Mitra Esq. B. K. Ghosh Esq., S. K. Mallik Esq., M. N. Kanjilal Esq.

Final Exam. in Law

The Dean of the Faculty of Law—President, Ex-officio. Land Tenures and Prescription : Babus Surendranath Guha, Lalitmohan Mukerji, Umeshchandra Ghosh, Surendrachandra Sen Esq., S. C. Ray Esq., J. M. Sengupta, Esq. Civil Procedure Evidence and Limitation : Babus Sibaprasanna Bhattacharyya, Tarak Chandra Chakrabarti, Debendrachandra Mallik, Gunodacharan Sen. Criminal Law : Babu Bankimchandra Sen. Nisithchandra Sen, Esq. Babus Brojendranath Chatterji, Saratchandra Lahiri.

Paper Setters in Law, 1913 :—

Prel. Exam in Law

The Dean of the Faculty of Law—President, Ex officio. Jurisprudence : M. N. Basu, Esq. Roman Law and Legislation : Dr. Satischandra Banerjee, Hindu Law : Babu Mahendranath Ray.

Intermediate Examination in Law

The Dean of the Faculty of Law—President, Ex-officio. Mahomedan Law and Personal Law : Z. R. Zahid Soraworthy Esq. Transfer of Property : The Hon'ble Mr. Justice Naliniranjan Chatterjee. Real Property and Succession : Babu Basantakumar Basu. Contracts and Torts : S. C. Ray Esq.

Final Law

The Dean of the Faculty of Law—President, Ex-officio. Land Tenures : The Hon'ble Mr. Justice Digambar Chatterjee. Equity : Dr. S. C. Bagchi. Civil Procedure Evidence and Limitation : Babu Harendranarayan Mitra. Criminal Law : The Hon'ble Mr. Justice Hassan Imam.

Changes in Syllabus.

B. Sc. Geology

On page 229 of the Calendar for 1911, Part I, at the commencement of the Practical Course in Geology for B. Sc. Examination, the following sentence has been added :— "Besides a more precise and through knowledge of the subject prescribed for the Practical Course in Geology for the Intermediate Examination in Science, a knowledge of the following additional questions shall be required." The addition will come into operation with effect from the B.Sc. Examination to be held in April next.

Pr. Sc. M. B. Zoology

On the recommendation of the Syndicate and the Senate the following revised syllabus in Zoology has been sanctioned by the Government of India for the Preliminary Scientific M. B. Examination, the revised syllabus will come into operation with effect from the examination to be held in April 1913 :— The Scope of Zoology and its relationship to other Sciences. The nature of living matter and the contrast between the Animal and the plant. The Cell—its structure and function. Cell division. The Morphology and life history of Amoeba, Vorticella, Nytcotherus and Monocystis. A summary of the main characters of the Protozoa. The Morphology and life history of Hydra, and a comparison between the Protozoa and Metazoa. Comparison of the Coelomata and the Coelenterata.

The functions of the Coelom. The Morphology and life history of the Earthworm. The Morphology and the life history of the Prawn (Palæmon) and the Cockroach, and compare them with the typical structure of the Annelida. The Morphology of the fresh water Mussel (Unio), and the land snail (Achatina). The general characters of the Vertebrata. The Morphology of a fish—preferably an Elasmobranch. The Morphology of the Toad (Eufo), and comparison with the fish. The Morphology of the Mammal (Guinea-pig). An elementary study of the development of the chick and the rabbit. The development of the Amnion and Allantois and the formation of the placenta. Outlines of the theories of Evolution Darwinism, and Mendelism. Practical Course :—The use of the microscope. A general acquaintance with the tissues of the animal body. Dissection of each of the above-mentioned types and a detailed knowledge of their structure.

Dr. A.R.Forsyth's Lecture

Dr. A. R. FORSYTH, F.R.S., University Reader in Mathematics, will, as at present arranged, commence a course of lectures on the "Theory of Functions of two Complex Variables" at the Senate House, College Square, Calcutta, probably from the 20th of January 1913, and will complete the course by the 20th of February following. The dates are, however, subject to alteration of which due notice will be given. The above lectures are intended mainly for the benefit of graduates engaged in research work or of those who wish to prosecute special studies in Mathematics. Fellows and registered Graduates of the University as well as Professors in Colleges affiliated to the Calcutta and other sister Universities in India will be admitted free to these lectures.

Post Graduate Research Scholarship for East Bengal

ONE post-graduate research scholarship of the monthly value of Rs. 100, tenable for a maximum period of three years, but in the first instance for one year only, will be awarded during the early part of the year 1913. The scholarship will be awarded to a suitable candidate who proposes to undertake research in some scientific subject; but in the event of no such candidate being forthcoming, the scholarship may be awarded for research in some literary subject. No candidate will be considered who has not passed the M.A. or some other equivalent or higher examination of the Calcutta University in 1910, 1911 or 1912. No candidate will be considered who is not possessed of high qualifications and who can not show that he has capacity for original research. He must state as definitely as possible the subject in which he intends to carry on his investigations. He must also state the name of the institutions in which he proposes to study, or in default the precise circumstances and conditions under which he intends to work, The candidate must be a *bona fide* native of the province of Eastern Bengal. All applications must reach the Director on or before the 16th February 1913 and must be submitted through the head of the institution in which the candidate read last.

The form of application may be had from the Assistant Director of Public Instruction. Bengal, Dacca Section, Writers' Buildings, Calcutta.

Madras University

Fellows

UNDER the Indian Universities Act, 1904, section 13, the Chancellor of the University of Madras is pleased to nominate the following gentlemen to be Ordinary Fellows of the Madras University :—Mr. Lionel Christopher Hodgson, M. A. Mr. George Frank Clark, M. A. PH. D.

Dr. Morris W. Travers- F. R. S., has resigned his Ordinary Fellowship of the Madras University under section XI, sub-section (1) of the Indian Universities Act, 1904, with effect from 10th December 1912.

Affiliation

UNDER section 21, sub-section (4) of the Indian Universities Act, 1904, the Governor in Council is pleased to sanction the further affiliation to the University of Madras of the Pachaiyappa's College, Madras, in Group (ii-A) —physical science—of the B. A. degree (pass course.)

Text books for Matriculation Examination, 1914.

ENGLISH.—1. Text-Books of which a detailed knowledge *will be required.* Poetry : Browning—Herve Riel. Longfellow—Discovery of the North Cape. Byron—Jephtha's Daughter, Vision of Belshazzar. Song of Saul before his last Battle. Percy's Reliques—King Lear and his Three daughters. Prose : Scott's Talisman (abridged)—Macmillan's School Edition. [NOTE.—The selection in Poetry will be published by the University with introduction and notes, and can be had at the S. P. C. K. Press, Vepery, Madras about the beginning of January, 1913, at six annas a Copy.] 2. Text-Books of which a detailed knowledge *will not be required.* Washington Irving—England's Rural Life (Blackie). Quiller-Couch—Historical Tales from Shakespeare (Edward Arnold) Julius Cæsar, Coriolanus, Richard III. Hawthorne

—Tanglewood Tales (Longmans). Marryat—The Children of the New Forest (Bell & Sons.)

SANSKRIT, TAMIL, TELUGU, MALAYALAM AND KANARESE.—Selections published by the University.

URIYA.—Sahitya-prasanga by Madhusudana Rau—prose portion only. Kavita-Sangraha by Lala Ramanarayany Raya.

MARATHI.—Vachanapathmala, Part I, Book II, by Krishnaji Govind Kinare (2nd edition, 1909) (Manager, Chitrasala Press, Poona.) Padya Ratna Samuchaya, Part II, by L. G. Lele (1st edition, 1909), pages 44 to 90; (Manager New Kitabkhana, Poona).

GREEK.—Xenophon, Anabasis.

LATIN—Ovid: Easy selection in Elegiac Verse (Macmillan). Cæsar: De Bello Gallico, II.

FRENCH.—Dumas: Napoleon (Macmillan).

GERMAN.—Text-books will be prescribed when required.

HEBREW.—Exodus, I to XX. Pslams, LXXIV to CL

ARABIC.—Nukhabu'l-Milah, Juzu'l Awwal Quismu'l Awwal (S. P. C. K. Dept.)

PERSIAN.—Siaya'hatnama-i-Ibrahim Beg, up to page 69, Vol. II (Office of the Board of Examiners, Calcutta. Hablul Matin Press). Gulistan—the first two chapters. Bostan, Chapters I and II.

URDU.—Urdu-i-mualla of Ghalib, pages 1 to 100. Lectures by Dr. Nazir Ahmad Khan; Lectures 23 (1895), 24, 25 (1896), 26 (April 1896), 27 (December 1896) and 28. Mujmu'a-i-Nazm-i-Hali—from the beginning up to Munazira-i-Wa'iz wa'a Sha'ir.

HISTORY.—History of Great Britain and Ireland: The Hanoverian and 19th Century Periods. History of India: The Modern India Period.

Punjab University

Degrees conferred in the year 1912.

DOCTOR OF ORIENTAL LEARNING (*Honoris Causa*)-

DOCTOR OF LAWS (*Honoris Causa*)— 1.

MASTER OF ARTS :—

COLLEGE	SUBJECTS AND CLASS											TOTAL
	ENGLISH		ARABIC		MATHEMATICS			PHILOSOPHY	HISTORY		ECONOMIC	
	II	III	II	III	I	II	III	III	II	III	III	
Govt. College Lahore	1	2	—	—	1	—	2	2	—	3	1	12
Forman Christian College	—	3	—	—	—	—	—	—	1	4	—	8
St. Stephens College Delhi	—	1	—	—	—	—	1	—	—	1	—	3
Private Students	—	—	1	1	—	—	—	—	—	3	—	5
TOTAL	1	6	1	1	1	—	3	2	1	11	1	28

MASTER OF SCIENCE :—

Government College Lahore—*Chemistry*: 3 in second class, 1 in third class. *Physics*: 1 in third class.

BACHELAR OF ARTS AND SCIENCE.

Already published. See Volume II Page 351. (No. 2 September 1912.)

OTHER DEGREES: See next issue (No. 2 January 1913.)

Bombay University

Results of the B. A. Examination 1912 :—

FIRST CLASS (*in order of merit*) : A. B. Gajendragadkar, N. H. Kamdar, V. R. Gujar, D. G. Ketkar, H. L. Daolatjada, T. K. Devalkar.

SECOND CLASS : *Language and Literature* 31 ; *Logic and Moral Philosophy*, 13 ; *Mathematics*, 13 ; *Chemistry and Physics* 16 ; *Natural Science* 27.

PASS CLASS : *Language and Literature*, 61 ; *Logic and Moral Philosophy* 106 : *Chemisty and Physics* 74 ; *Natural Science* 6 ; *History* 115.

THE following candidates have got *scholarships* as under—

Ezekel F. E.—The Ellis Scholarship. Gujar V. R—The James Taylor Prize, the Wordsworth Scholarship and Prize and the Gangadas Rangildas Scholarship. Gajendragadkar A B—The Cobden Club Medal, the S James Fergusson Scholarship in Arts, and one-half of the Bhau Daji Prize. Ketkar D. G.—One-half of the Bhau Daji Prize. Kamdar K. H,—The Dhirajlal Mathuradas Scholarship. Tasania F. P.—The Narayan Vasudev Scholarship. Ichaporia B. E.—One of the Pherozeshaw Marwanji Jijibhai Scholarship. Sanjana M. B.—One-half of the Perozshaw Merwanji Jijibhai Scholarship. Bhokri G. K.—The Pralhad Sitaram Patwardhan Scholarship.

Results of L. M. & S. Examination, Nov, 1912

FIRST CLASS (*in order of merit*) : Jhirad Jerusha Jacob, and Sankar Sharma.

SECOND CLASS : Damle G G, Desai H M, *Dewaji Ruth*, Dhavle D S, Framroz Hormusji, Garde S G, Hate V G, Kachur A M, Kamdin R D, Mehta D H, Mehta G D, Mehta G B Nanavati P M, Noronha S, Parikh C P, Pereira C M, Prasad S N, Remedios P E, Senjit M B, Vachhrajani B C, Wariyar K R, Daruwala F C.

NOT CLASSED : Chohan N K, Karani N N, Shah T A, Dhurandar G K, *Jervis Millicent* Kanga R D, Kotak N B, *Paul Angelina*, Sukhia E H, Waris Khan, Daruvala P P, Fozdar R M, Gavankar D H, Purandare A P, Ratnagar J M, Save K V, Gomes Antinio F C, Merchant H A, Moses Solomon.

MOSLEM UNIVERSITY

Foundation Committee's Views

The University Foundation Committee held its sittings at Lucknow on the 27th and 29th December 1912. The Hon. the Raja of Mahmudabad in his opening speech dealt with all the issues that were raised in Sir Harcourt Butler's letter and asked the committee to consider the questions with a cool and calm mind. As far as his own personal views were concerned, he did not think the question of name was such as required any serious consideration. The Government would be wise enough to concede this trivial point. The real question was that of control, and he thought he was voicing the opinion of all his community when he said that no power should be relegated to the Governor-General in Council on the matter of affiliation. He was quite at one with his people that it was a vital necessity in the light of special circumstances of the Mahomedans, but the question was how far and to what extent should the point be pressed at present. They ought to be given the affiliation, of schools now. Those of colleges can be without prejudice relegated to the future. The relations between the Court of Trustees and the Senate, he concluded, should remain as recommended by the Constitution Committee.

He then proposed His Highness the Nawab of Rampur, who had specially come to attend the meeting, as the President of the Committee.

The different issues involved in the University question were put before the meeting. The large audience and the number of speakers was quite suggestive of the keen interest of the Muhammadan community regarding the University question. All the speeches at first day's meeting suggested two schools of thought the exponents of which showed no reconciliation. The one maintained that the Muslim University should not be made an official department, while the other was determined to give as little as possible to the Government. The point raised was whether in case of the Viceroy being the Chancellor, what powers should be given to him. There were many who thought that the last power of veto being in the hands of the Government, what need there was of conferring more.

Mr. Mohamed Ali Jinnah said : We are after all a governed people. The Government which is foreign has got to safeguard many sides in its own interest. Our position should be that of give and take. We must give the Chancellor, he continued whoever he be, certain powers without which he will be nothing but a dummy. It was better, he concluded, that we should have confidence in the government without sacrificing our own interes and show our sterling qualities and real worth which is the chief thing

After animated discussions the delegates to the University Foundation Committee, among whom signs of cleavage appeared to be more persistent were induced to pass the following resolution :— That this meeting views the decisions of His Majesty's Secretary of State as contained in the letter of Sir Harcourt Butler, dated Simla the 9th August with profound disappointment and regret. Having

regard to the views expressed by the committee at this meeting in the course of discussion it resolves :—(1) That the name of the University should be Moslem University, Aligarh ; (2) That with regard to the control the powers proposed to be vested in the Chancellor should not be vested in the Governor-General in Council ; (3) That the power mentioned in Clause 5, Chapter 3 of the Statute, should be the same as conferred on the Patron under Section 41 of the rules and regulations of the Aligarh College ; (4) That with regard to Affiliation the statutes should remain as proposed ; (5) That the provisions relating to the Court Council and Senate should not be modified and further (6) having regard to the momentous issues involved therein, this meeting appoints a committee with full powers and authority to act and finally settle all matters relating to the Moslem University in such a manner as may seem proper to them in the best interests of the community and wait in deputation on His Excellency the Viceroy to make all necessary representations in this behalf.

The Committee of Settlement

At the second day's sitting held on the 29th December it was considered advisable to appoint a representative committee to act as plenipotentiaries of the community in carrying on negotiations with the Government. Mr. Mahomed Ali, Editor of the "Comrade," was requested to move and Major Hasan Bilgrami to second the resolution. In a speech of great persuasion Mr. Mahomed Ali related the whole history of the previous discussions which had led to the step he was taking and justified the conclusions at which they had at last unanimously arrived.

The following are the names of the gentlemen who have been appointed to finally settle all matters relating to the Muslim University :—H. H. the Aga Khan, the Hon'ble the Raja of Mahmudabad, Mr. Mahammed Ishaq Khan, Secretary-elect of the Aligarh College, Nawab Vikarul-mulk, Sahebzada Aftab Ahmed Khan, Mr. Nabiullah, Mr. Wazir Hasan Khawaja Ghulamu Saqlain, Mr. Shafi, Dr. Iqbal Malik Mubarriz Khan, Mr. Raoim Bakshi Mr. Fazle Husain. Mr. Mahammed Ali Jinnah, Mr. Fazalbhoy Currimbhoy, Major Hasan Bilgrami, Mr. Justice Hasan Imam, Mr. Fakhruddin, Mr. Mazharul Haque, Mr. Mahomed Ali, (Editor, "Comrade,") Seth Yakub Hasan, Nawab Gulam Ahmed Kalami and H. M. Malak.

DACCA UNIVERSITY

Summary of the Committee's Report

The Committee have strictly adhered to the instructions of the Government of India that the University should be of the teaching and residential and not of the federal type, and that it should be a self-contained organism unconnected with any College outside the limits of the city.

The Committee then proceed to recommend that the University should consist of the following Departments :—Arts, Law, Medicine, Science, Engineering, Teaching and Islamic studies and should include the following :—Dacca College, Jagannath College, a New Arts College, a Mahomedan College, a Women's College, a College for the well-to-do Classes, an Engineering College, a Teachers' College, a Law Department, a Department of Medical Studies and Postgraduate students of Arts and Science. The number of students for all these institutions is to be fixed at 2,890.

The following subjects are to be included in the general course :—English, Bengali, Urdu, Sanskrit, Arabic, Persian, History, Economics, Philosophy Mathematics, Physics, Chemistry, Botany, Zoology and Physiology. The junior course in science should comprise English, a vernacular language, mathematics, physics and chemistry, and the senior course, mathematics, physics, chemistry, zoology, botany and physiology and need not include English, or a vernacular language.

The course for the degree of M. A. or M. Sc., will be confined to a single subject. Students will in general, have already specialized for two years in the subject of their post-graduate studies, and the course for the degree of Master should therefore be of a very high standard. Students should be allowed to select one from among the following subjects :—(*a*) for the M. A. degree—English, Sanskrit, Arabic, Persian, History, Economics, Philosophy, Mathematics ; (*b*) for the M. Sc., degree, Mathematics, Physics, Chemistry, Botany, Zoology and Physiology.

For the degrees of Litt. D. and D. Sc. the candidate should present a thesis involving advanced study and research. The following persons should be eligible as candidates :—Master of Arts or Science of the Dacca University, provided that not less than three years have elapsed since he passed the examination for the Master's degree, (2) a Master of Arts and Science (or the holder of an equivalent degree of any other University who has worked for not less than 3 years in any of the seminary or laboratories of the Dacca University, (3) a member of the Staff who has been employed for not less than three years in the University.

Methods of instruction and study should be by means of lectures, tutorial instruction, laboratory and seminarwork, and supervised private study. The examinations will include question papers, oral and practical tests and theses for advanced students, there beinga separate Board of examiners for each subject in each examination.

The report then deals with the strength of the staff to be allotted to each College and for each subject. As to the fees payble by the students the Committee fix Rs. 6 in the junior and Rs. 7 in the senior classes of the Dacca and the New Colleges and Rs. 4 in the junior and Rs. 5 in the senior classes in the Jagannath and the Muhammadan Colleges.

Dwelling upon the residential system the Committee recommend that no students' messes or non-collegiate hostels should pe permitted to exist in connection with the new University; even the permission to live with an authorized guardian must be carefully regulated and controlled. A student should not be permitted to join a college and become a member of the University until a question of his residence has been settled. He must be expressly confided to the care of the person with whom he is to reside, the latter having been interviewed by the College authorities and approved as a fit and suitable guardian must formally assume charge and responsibility.

The committee do not find it possible to lay down any general rules and principles for religious instruction but suggest that the University may take it into their consideration if any body of parents demand it. But in the Mahomedan College, however, the Committee think that steps may be taken in this direction on the recommendations made by the Sub-committee for the Mahomedan College.

Regarding the admission of students into the College for women it is recommended that for the present accommodation should be provided for 40 students i.e., twelve annual admissons and some Anglo-Indian girls wishing to avail themselves of the College should be permitted to be admitted.

The College of Engineering, will form one of a group of technological institutions, the other members being the Engineering School and the Industrial institute to be established in accordance with the recommendations of the Dacca Conference of 1909, of the three members of the group, the College of Engineering will form a portion of the University. The College should be open to students from the Provinces of Bengal, Bihar and Orissa, Assam, and Burma. The ordinary educational qualification should be the I. Sc. of the Dacca or Calcutta University in English, Mathematics, Physics and Chemistry. The capital and recurring charges of the College will amount to about Rs. 6,88,000 and 1,20,000 respectively.

Students are recommended to be admitted to the Department of Medicine on the same conditions as to the Departments of Arts and Science and the entrance qualification should be the Matriculation Examination of the Calcutta University. There will be no separate Medical College; students of medicine, like students of other scientific subjects will be received into the various colleges and taught by the University. The number to be admitted each year will depend upon the demand for training and the capacity of the Calcutta Medical College to receive those students who have completed their course at Dacca.

Regarding the administration of the University the Committee think that the detailed administration of a teaching and residential University should be entrusted mainly to its professors and executive officers; the graduates of the University should be given place in its Government; and an outside element should be admitted of sufficient strength to ensure that questions of principle are decided with due consideration for the needs and sentiments of the community at large and suggest that the Government of the University shall be vested in a Chancellor, Vice-Chancellor, Convocation and Council and that the Governor of Bengal should be the Chancellor of the University, and the position to be assigned to him and to the Vice-Chancellor should be as in other Indian Universities. The Convocation shall be composed as follows:—(1) The Chancellor (2) The Vice-Chancellor (3) The Members of the Executive Council of the Government of Bengal (4) The Commissioner of the Dacca Division (5) The Director of Public Instruction. (6) The Warden of the University (7) The Registrar of the University (8) The Principals of the Incorporated Colleges (9) The Professors (Excluding Junior and Assistant Professors) of the University (10) Twenty-five Graduates to be Elected by the General body of Registered Graduates (11) Five Muhammadan Graduates to be Elected by the Mahomedan Registered Graduates (12) Ten Muhammadan Graduates to be Nominated by the Chancellor (13) Twenty-one persons, of whom at least two-thirds shall be non-officials, to be nominated by the Chancellor. The Council of the University may be composed as follows:—(1) The Vice-Chancellor (2) The Commissioner of the Dacca Division (3) The Principals of the incorporated Colleges (4) six professors appointed by the Chancellor as follows:—four from among professors working directly under the University and two from among College professors. (5) Six members of whom at least two shall be Mahomedans, to be elected by Convocation from among its own members.

Referring to the relations of the University with the Government and the Director of Public

Instruction the Committee recommend that Colleges should not correspond directly with the Government or the Director of public Instruction; any College requiring additions to staff, building etc. desiring to raise any question which will require Government orders should submit the case to the Council.

The Committee estimate the total expenditure for buildings to amount to Rs. 32,36,000 made up as follows:—The Arts Colleges 8,98,000; College for women 1,50,000; College for well-to-do classes, 5,17,000; College of Engineering, 4,46,000; Laboratories and other Science buildings, 7,18,000; Gymnasium, 1,01,000; houses for officers of provincial Education Service and of European Subordinates, 2,90,000; union, 53,000; shops, 35,600 hospital, 16,000; works office 10,000; minor alterations in University building, 2,000. The grand total of the capital expenditure is estimated to amount to Rs. 52,91,000. From this amount the following deductions are to be made: Rs. 6,88,000 for the buildings equipment etc. of the College of Engineering to be met from the sale-proceeds of Shibpur College, Rs. 6,08,000 for the College for the well-to-do classes in pursuance of the suggestion that the cost should be defrayed from unclaimed landlords' fees, Rs. 1,50,000 from the proposed expenditure on the Mahomedan College, being the amount set apart from grants made in the past two years by the Government of India to meet the cost of a Mahomedan Hall. Making these deductions, there remains a net total of Rs. 38,45,000. The totals under the various main heads of the recurring charges are as follows:—Superior staff of the Central administration, 89,664; teaching staff, 8,54,840; clerical establishment, 31,512; miscellaneous subordinate establishment, 6,912; menial establishment, 46,944, and contingencies, 2,68,844; total, 12,98,716.

The report is signed by Messrs. R. Nathan, G. W. Kuchler, Rash Behari Ghosh, Syed Nawab Ali Chaudhuri, Siraj-ul-Islam, Ananda Chandra Roy, Mahomed Ali, H. R. James, W. A. J. Archbold, Satish Chandra Acharji, C. W. Peake, and Abu Nasir Mahammed Waheed, subject, however, to some notes of dissent.

THE COLLEGES
And Schools

City College Calcutta Foundation day

The thirty-fourth anniversary of the foundation day of this institution was celebrated on the 6th January 1913. There was divine service conducted by Principal Heramba Chandra Maitra, followed by a Social Gathering in which the Professors and the members of the Council and other invited guests mixed freely. Tea and light refreshments were served.

Calcutta Free School

THE annual distribution of prizes, in connection with the Calcutta Free School was held on Saturday the 21st December 1912 in the hall attached to the Girls' School. The Hon. Sir William Duke presented the prizes. There was a large gathering of parents, guardians and well-wishers of the institution.

Financial needs

Rev. C. E. Stokoe, Chaplain and Hon. Secretary to the institution, in the course of his annual report on the working of the School, said the governing body was in great need of more money to carry on their work. He enumerated the three causes which contributed to bring this institution into grave financial difficulties. The first was the withdrawal some 2½ years ago, for no reason assigned, of the teachers' salaries grant of over Rs. 8,000 a year; the second, the loss, for several years now, of interest on the sum of about Rs. 80,000 which was spent on the ill-fated Ranchi scheme; and the third, the heavy extra expenditure made necessary by the introduction of the new code which had involved the appointment of four new teachers and an additional expenditure of about Rs. 3,000 a year, towards which practically no additional grant or assistance had been given. The Governors were trying their utmost to meet those heavy losses and extra charges and still hoped that they might find their way through their financial troubles. In the meantime they must get along as best as they could. They had no intention of letting the children suffer, and the Governors had not hesitated to undertake extensive improvements at considerable cost. As they wished to keep down the annual deficit as low as possible, they would once more appeal to the public for continued and generous support.

The Pupils

The School had 405 children on its list, 260 of whom were clothed and fed, and all of whom were educated free at the cost of the charity. Every application for admission was most carefully considered, and the Governors were not willing to admit or retain in the school any children whose example or influence was bad. Hence the good moral tone and excellent behaviour of the children of the school. The health of the children during the year had been remarked by the School Medical Officer as most satisfactory. As regards the educational work of the Institution, the Inspector of European Schools concluded his report by paying a tribute of the highest praise to the excellent work done by the Head-master, Mr Fitz-williams, the Head-

mistress, Miss D'Cruz, and the Mistress in charge of the Kindergarten department, Miss E. D' Cruz.

Speaking of the results of the Government and annual examinations, Mr. Stokoe said that he did not attach much importance to the results of examinations as conducted at present, for he was of the opinion that the whole curriculum presented by the present Code was most unsuitable to a school of that description. They wanted something far more practical, what was of far more importance to them was that they should turn out their children fit for such posts as were open to them at the early age at which they left the school. He was, however, glad to be able to report that most of the boys and girls who had left them during the year had obtained good appointments.

Examinations

The School Cadet Corps, of which they were justly proud, was as smart as ever during the past year. At the annual inspection which was held on last Friday evening, the Cadets gave a creditable exhibition of their drill and earned much praise from the Inspecting Officer. There had been a marked improvement in the boys' games, and they appeared to take much more interest in sport, than they used to do, and that was mainly due to the larger provision of athletic gear which they were now able to make and to the interest evinced in their sports by the masters, friends, and ex-pupils of the school. They had an excellent cricket eleven. The girls' games had been sadly interfered with in the earlier part of the year by the epidemics of infectious sicknesses. He was however, glad to announce that the Free School girls acquitted themselves very creditably at the inter-school competition held at the Y. W. C. A., taking the second prize for club-drill the first for the obstacle race, and several prizes for various other items. The Governors had just gratefully accepted Miss Wrights' kind offer to give the girls a course of physical training at a nominal charge.

Cadet Corps and Sports

A programme of music followed in which the senior girls and boys who took part, acquitted themselves admirably. The children of the Kindergarten department gave a "Geisha" drill which gained well-merited applause. Lady Duke then distributed the prizes, consisting of books, medals, and cups,

Sir William Duke, in the course of an address, said he trusted the School authorities would soon be able to tide over their financial difficulties and maintain the efficiency of the School at a high level, and thus help to improve the educational facilities of the Domiciled Community in Calcutta.

Sir William Duke's Address

As the School authorities had to meet first of all the cost of increased accommodation for the annually increasing number of pupils, and secondly the increasing demands made upon them by the Educational Code from time to time, he trusted that the appeal for funds made by the Honorary Secretary would meet with a ready response from the public. He also hoped to see the play-ground well-equipped and extended. He was glad to see that volunteering was strongly supported in this school. He thought that was a step in the right direction. He thanked them for allowing him that opportunity to associate his wife and himself with the useful work that this institution was doing in the City of Calcutta for the poorer members of the Domiciled Community.

Three hearty cheers were then called for Sir William and Lady Duke which were enthusiastically received.

Mahakali Pathsala, Calcutta

There was a large attendance at the Mahakali Pathsala, 69 Sukea Street, Calcutta, on Friday morning (Dec. 27, 1912) to meet Her Excellency Lady Carmichael who was graciously pleased to visit the institution with the object of seeing how the girls perform the "Shiva Puja" ceremony.

Her Excellency's visit to witness the "Siva Puja' ceremony

Her Excellency on arrival was received by the Maharaja of Cassimbazar, Maharaja of Nashipur, Babu Jogendra Nath Mookerjee, Miss Cornelia Sorabji and others, and was conducted to the dais. Verses of welcome in Sanskrit were then sung by the girls.

This was followed by the offering of the "Shiva Puja" by the girls. Her Excellency watched with keen interest the various jenuflexions of the girls and was apparently much pleased.

Babu Jogendra Nath Mookerjee Honorary Secretary, then announced that in honour of the visit of Her Excellency the following gentlemen had promised to contribute towards the building fund. Rai Jyat Kumar Mookerjee Bahadoor, Rs. 5000 (also Rs. 15 for feeding the girls); Babu Bhabendra Chandra Rai of Narail, Rs. 200; Kumar Nagendra Nath Mullick, Rs. 200; Babu Jatindra Nath Khan of Ula, Rs 100; Rai Upendra Nath Shawoo Bahadur, Rs. 100; Babu Harendra Kristo Seal, Rs. 100; Babu Haridas Gokuldas, Rs. 101; Babu Tribhuban Das, Rs. 51; Babu Debprosonno Ghose, Rs. 50; Babu Promotho Nath Pramanick, Rs. 25; and Mr. S. Sircar, Rs 20; Maharajas of Cossimbazar and Nashipur, who had already contributed large sums for this purpose, promised to supplement them.

Her Excellency then went round the rows of the seated girls and had some conversation with them.

Besides those who promised to offer donations, there were present Mohamohopadhya Rajendra Nath Shastri, Pundit Haridev Shastri, Rai Surendra Nath Mitter Bahadur, Mr. J. C. Mitter, Dr. Jogendra Chandra Ghose, Dr. Haridhone Dutt, Babu Nibaran Chandra Dutt and Babu Charu Chandra Mullick. The arrangements, which were excellent, were in the capable hands of Mr. Kartick Chandra Bose, District Engineer, Calcutta Corporation.

Lakshmipur Sanskrit College Bhagalpur

The small village of Lakshmipur where the college is situate lies in a picturesque valley. The college was established in February 1911 by Thakur Partap Narayan Deva, the senior proprietor of the Lakshmipur estate, and received recognition 3 months later. There are six teachers in the college and instructions are imparted in Sahitya, Poetry, Dharama Shastras, Jyotis, Naya, Mimansa, Sankhya, Vedanta, Veda and Darshanas. There is also a fine library of Sanskrit books attached to the college. The founder has very liberally endowed it with a landed property yielding an annual income of Rs. 11,000 for its up-keep. Provision has also been made for the diet allowance of 100 of the best students there. Other poor pupils of the college are supported by the daily *sudabrata* attached to the Lakshmipur state.

The college hall was tastefully decorated on the occasion of the prize Distribution with handrolls, flowers and green leaves and the coronation picture of their gracious Majestics. The elite of Banka and Bhagalpur and the local zamindars were well represented on the occasion. Mr. Dixon, the collector of Bhagalpur, with Babu Sarada Prasad Sircar, the sub-divisional officer of Banka and Mr. Dacosta, the manager of the Lakshmipur Raj were received at the gate by B. Nadia Chand Dutta, the dewan of the Lakshmipur Raj. The Thakur Sahib received them at the foot-steps of the college building and garlanded Mr. Dixon. The Thakur Sahib in a small speech in Sanskrit proposed Mr. Dixon to the chair. Dewan Nadia Chand Dutta then expressed the strong indignation and horror of the Thakur Sahib, his officers, and his tenantry, at the dastardly attempt made on their Excellencies, the Viceroy and Vicerene, and their great joy at their miraculous escape and said that arrangements were made for offering up prayers in his temples for his Excellency's immediate recovery and that a telegram had previously been sent to his Excellency's private secretary to that effect. A welcome song was then sung. Dewan Nadia Chand Dutta read the English report of the college for 1911-12 and Pandit Nirsan Misra Vyakaranacharya, principal of the college read the Sanskrit report. There were then recitations by the boys. Several gentlemen then addressed the gathering in Sanskrit, English and Hindi. Then the president delivered an impressive speech expressing his satisfaction at the steps taken by Thakur Saheb for reviving the dying Sanskrit literature. A vote of thanks, was then passed. The notable feature of the whole function was that one blind boy named Soordas Misra was presented a prize for his wonderful memory. He is going up for the first examination in Sanskrit this year. The Thakur Sahib then announced that he would award a gold medal every year to the most successful student of the college and it will be named after Mr. Dixon. After a photograph was taken of the prominent persons present, the meeting dispersed after partaking of light refreshments.

A Correspondent.

Madras Christian College

College Day

The twenty-second College Day of the Madras Christian College was celebrated on December 27th 1912 at 5-15 P.M., in the Anderson Hall, with Rao Bahadur W. L. Venkataramaiyya of Berhampore in the chair, when a large number of past and present students of the college were present.

At 4 P.M., a social gathering was held when light refreshments were served to the guests. The guests then moved to the Anderson Hall where the meeting was held.

The toasts

As was customary the Chairman first proposed the toast of the King Emperor and in doing so he said that they all know well how His Majesty the King-Emperor had in a special manner endeared himself to his Indian subjects. When His Gracious Majesty visited India last year, he showed to his Indian subjects how deep and sincere was his love for this country. The message His Majesty sent to them from England seven years ago was followed up during His Majesty's Coronation visit by a watch-word of hope. In the memorable speech His Majesty made in response to the address of the Calcutta University, His Majesty assured them that the cause of education in India was very close to his heart and that it was his wish that all over the land should be spread schools and colleges from which should go forth loyal and useful citizens. Knowing fully well what a deep and sincere interest His Majesty took in Education, they who were assembled that evening under the auspices of the greatest Educational Institution in the

land must sincerely wish good for the King. They should all express their horror and indignation at the horrible crime that had been perpe rated in Delhi four days ago on His Excellency the Viceroy. That crime, so far as they could see, could not be traced to any just cause of grievances. It would not surprise any one of them when they discovered that dastardly deed from which all right thinking people had really disassociated themselves was the work of a mad man. The deed had created a thrill of the deepest horror throughout the length and breadth of the country in the minds of all right thinking Indians. In conclusion he said that it gave him great pleasure to propose the toast of the King Emperor. The toast was carried the audience standing, and it was honoured by the singing of the National Anthem.

The Chairman in next proposing the toast of the Madras Christian College —"its continued success and prosperity" said that when the committee of the Christian College Day Celebration invited him to preside on that occasion, he felt himself altogether unworthy to succeed those who had previously occupied the chair which he then occupied. But he thought, he being an old student of the College, that it was but proper on his part to accept the offer. He traced the history of the College and explained his father's relation to the same. In 1871 he entered the Christian College and went out in 1880 after completing his B. A. In the year 1881 he became a teacher in the College and served till 1891 and owed his present position to the Christian College more than to any human agency. One great reason why the Christian College had such a powerful hold on the minds of its students was due to the relationship that existed between the *Guru and the Sishya* (teacher and the taught.) The other reason was that it was a missionary institution. The chairman here pointed out the many good things done by missionaries to India and also referred to the work done by Dr. Miller in the cause of education in Southern India. He said that many persons who held prominent positions at present went out from the Christian College. In conclusion, he coupled the name of Dr. Skinner with the toast.

Dr. Skinner's reply

Dr. Skinner in reply to the toast said that it gave him very great pleasure to be present and to avail himself of the opportunity of meeting so many of his former as well as present students of the College. He thanked the Chairman for the kind words said about the College. The speaker then referred to the death of the late Rev. Mr. Craig and said that the College had lost one of its ablest teachers. He was also very sorry to miss Dr. Russell who had worked a great deal for the College and also referred at great length to the work of Dr. Miller in the cause of education.

Mr. Peter Paul Pillay then proposed the toast of Dr. Miller. He said that Dr. Miller was a great and noble representative of the greatness of Britain. He was acquainted with Dr. Miller for nearly half a century. The existence of this institution was entirely due to Dr. Miller's energy and force of character. The Rev. A. G. Hogg, here read the message of Dr. Miller, Mr. K. R. V. Krishna Rau Bahadur then proposed the toast of *Our Young Friends* and it was responded to by Mr. C. D. Subramania.

Travancore Colleges

A correspondent learns that the Government have sanctioned a grant of Rs. 3,000 to the Scott Christian College Nagercoil for getting down new apparatus &c. for the institution. It is understood that Mr. Labouchareiere, a professor in H. H. the Maharaja's College, Trivandrum will retire from service on the 30th March next. Mr. L. C. Hodgson, Principal of the same college, has addressed the Government on the desirability of the entertainment of an additional professor of History in the institution.

EDUCATION ABROAD

HOLIDAYS OF COLLEGE YEAR IN AMERICA.

Harvard gives fewest with Total of 117; Columbia most with Total of 128 Their Distribution.

The following statistics have been compiled showing that of the seven leading eastern colleges Harvard gives the fewest number of holidays. The holidays include the summer vacation of 1912 and the holidays during the academic year of 1912-13. Harvard is the only college to observe Columbus day. Four Colleges, Harvard Columbia, Brown, and Pennsylvania observe Washington's Birthday as a holiday. Memorial Day is observed by Harvard, Columbia, Dartmouth and Brown. Of all the Colleges Dartmouth and Brown are the only ones granting a mid-year recess toward the end of January. For the second time in her history Princeton declared a holiday on the day of the Yale-Princeton football game.

Of the whole year, Harvard gives 32.05 per cent. in holidays; Yale, 33. 15; Princeton, 33.83; Columbia, 35.07; Dartmouth. 32. 33; Brown, 33.97; and Pennsylvania, 34.52.

	Summer.	Thanksgiving.	Christmas.	Easter.	Other days.	Total.
Harvard,	95	1	11	7	3	117
Yale,	98	1½	14	7½	0	121
Princeton,	98	4½	14½	5½	1	123½
Columbia,	104	3	13	5	3	128
Dartmouth,	84	1	14	14	5	118
Brown,	97	1	12	7	7	124
U. of P.,	99	4	12	10	1	126

Leeds University

The rapid developement of Leeds University from the Yorkshire College, which it was in 1882, when Sir Nathan Bodington joined it, till his death as first occupant of the Vice-Chancellor's chair in 1911, comes clear to light in the sympathetic memoir written by the Rev. W. H. Draper, rector of Adel, which has just been published by Messrs. Macmillan. The Volume is appropriately dedicated "To those that come after in the University of Leeds." In 1882 the college had 172 registered Students, seven professors, and an assistant staff of ten, including lecturers, and the fees paid by students for a year amounted to z 2,872. In 1911 the University of Leeds numbered 1,163 students, forty-one professors, and nearly 100 Lecturers, while students' fees amounted to £14,335. Thus largely under one man's guiding influence and administrative control, grew an institution which has already taken front rank among its kind, and which with Mr. Michael E. Sadler for its Vice-Chancellor, has triumphs in store no less decided. Financially it has been much indebted to the Clothworkers' and other great City of London Companies, who have generously backed the support of local business men. With a continuation of this local and and London liberality, an even greater future of academic and practical efficiency may be with certainty anticipated.

A Museum as an Educational Centre

The annual report of the Manchester Museum at the University of Manchester is published, and is perhaps one of the most interesting of an interesting series. It is probable that the public in Manchester and the county do not realise how much this is a public museum. A feature of the work of the Museum Committee which consists of University representatives and those of the City Council, with co-opted members, and two elected by the subscribers, is the programme of free lectures, that have made the "Manchester Museum Lectures" household words. The Council invites school parties to go round, and during the last year about thirty parties from various schools, colleges, and societies have been received at the Museum and conducted round by the assistant keepers. Increased use is being made of the Museum by the teachers in elementary and secondary schools. A visit to the Museum, with a lesson on some Natural History subject illustrated by Museum specimens, now forms a regular part of the work in many classes in the Manchester schools. A special room in which such classes can be held is greatly desired, and will, indeed, become necessary if the increased use to which the Museum is put for educational purposes is continued. During the past year the Students' Room attached to the Museum was placed at the disposal of small classes of school boys and girls, but it is not big enough to accommodate large classes. In many other cities in the provinces similar efforts to popularise the Museum as an educational centre are meeting with great success.

What becomes of the American College Graduates.

The United States Bureau of Education has presented to the public some statistics about the occupations of the College graduates of the country from 1642 to 1900. Statistics of 37 Colleges and universities furnished this material. Taking three periods a century apart, we have the following percentages :—

	1696-1700	1796-1800	1896-1900
Ministry	65.6	21.4	5.9
Law	1.6	30.5	15.5
Medicine	3.1	8.4	6.6
Education	4.7	5.7	26.7
Business	1.6	5.6	18.8
Public Service	9.4	1.1	1.0

At the close of the 18th century the ministry overshadowed all other professions and was chosen by about two-thirds of all the graduates. One hundred years later only about one-fifth of the graduates adopted this profession. At the close of the 19th century less than 6 per cent. entered the ministry. Education, which was selected by only a comparatively small number down to 1825, has advanced with great rapidity, until now it outranks all other professions and is chosen by over one-fourth of the graduates. Law at the end of the 18th century, was the profession of nearly one-third of all graduates and outranked all other professions at this time. Since then it has lost in relative importance, although the actual number of graduates entering this field has increased. Business claims an increasing proportion of graduates, until at present nearly one-fifth enter an active business career. Less than 1 per cent. of the graduates of these thirty-seven colleges now enter agriculture. A century ago the proportion was between three and four times as great.

mistress, Miss D'Cruz, and the Mistress in charge of the Kindergarten department, Miss E. D' Cruz.

Speaking of the results of the Government and annual examinations, Mr. Stokoe said that he did not attach much importance to the results of examinations as conducted at present, for he was of the opinion that the whole curriculum presented by the present Code was most unsuitable to a school of that description. They wanted something far more practical, what was of far more importance to them was that they should turn out their children fit for such posts as were open to them at the early age at which they left the school. He was, however, glad to be able to report that most of the boys and girls who had left them during the year had obtained good appointments.

Examinations

The School Cadet Corps, of which they were justly proud, was as smart as ever during the past year. At the annual inspection which was held on last Friday evening, the Cadets gave a creditable exhibition of their drill and earned much praise from the Inspecting Officer. There had been a marked improvement in the boys' games, and they appeared to take much more interest in sport, than they used to do, and that was mainly due to the larger provision of athletic gear which they were now able to make and to the interest evinced in their sports by the masters, friends, and ex-pupils of the school. They had an excellent cricket eleven. The girls' games had been sadly interfered with in the earlier part of the year by the epidemics of infectious sicknesses. He was however, glad to announce that the Free School girls acquitted themselves very creditably at the inter-school competition held at the Y. W. C. A., taking the second prize for club-drill the first for the obstacle race, and several prizes for various other items. The Governors had just gratefully accepted Miss Wrights' kind offer to give the girls a course of physical training at a nominal charge.

Cadet Corps and Sports

A programme of music followed in which the senior girls and boys who took part, acquitted themselves admirably. The children of the Kindergarten department gave a "Geisha" drill which gained well-merited applause. Lady Duke then distributed the prizes, consisting of books, medals, and cups,

Sir William Duke, in the course of an address, said he trusted the School authorities would soon be able to tide over their financial difficulties and maintain the efficiency of the School at a high level, and thus help to improve the educational facilities of the Domiciled Community in Calcutta.

Sir William Duke's Address

As the School authorities had to meet first of all the cost of increased accommodation for the annually increasing number of pupils, and secondly the increasing demands made upon them by the Educational Code from time to time, he trusted that the appeal for funds made by the Honorary Secretary would meet with a ready response from the public. He also hoped to see the play-ground well-equipped and extended. He was glad to see that volunteering was strongly supported in this school. He thought that was a step in the right direction. He thanked them for allowing him that opportunity to associate his wife and himself with the useful work that this institution was doing in the City of Calcutta for the poorer members of the Domiciled Community.

Three hearty cheers were then called for Sir William and Lady Duke which were enthusiastically received.

Mahakali Pathsala, Calcutta

There was a large attendance at the Mahakali Pathsala, 69 Sukea Street, Calcutta, on Friday morning (Dec. 27, 1912) to meet Her Excellency Lady Carmichael who was graciously pleased to visit the institution with the object of seeing how the girls perform the "Shiva Puja" ceremony.

Her Excellency's visit to witness the "Siva Puja" ceremony

Her Excellency on arrival was received by the Maharaja of Cassimbazar, Maharaja of Nashipur, Babu Jogendra Nath Mookerjee, Miss Cornelia Sorabji and others, and was conducted to the dais. Verses of welcome in Sanskrit were then sung by the girls.

This was followed by the offering of the "Shiva Puja" by the girls. Her Excellency watched with keen interest the various jenuflexions of the girls and was apparently much pleased.

Babu Jogendra Nath Mookerjee Honorary Secretary, then announced that in honour of the visit of Her Excellency the following gentlemen had promised to contribute towards the building fund. Rai Jyat Kumar Mookerjee Bahadoor, Rs. 5000 (also Rs. 15 for feeding the girls) ; Babu Bhabendra Chandra Rai of Narail, Rs. 200 ; Kumar Nagendra Nath Mullick, Rs. 200 ; Babu Jatindra Nath Khan of Ula, Rs 100 ; Rai Upendra Nath Shawoo Bahadur, Rs. 100 ; Babu Harendra Kristo Seal, Rs. 100 ; Babu Haridas Gokuldas, Rs. 101 ; Babu Tribhuban Das, Rs. 51 ; Babu Debprosonno Ghose, Rs. 50 ; Babu Promotho Nath Pramanick, Rs. 25 ; and Mr. S. Sircar, Rs 20 ; Maharajas of Cossimbazar and Nashipur, who had already contributed large sums for this purpose, promised to supplement them.

Her Excellency then went round the rows of the seated girls and had some conversation with them.

Besides those who promised to offer donations, there were present Mohamohopadhya Rajendra Nath Shastri, Pundit Haridev Shastri, Rai Surendra Nath Mitter Bahadur, Mr. J. C. Mitter, Dr. Jogendra Chandra Ghose, Dr. Haridhone Dutt, Babu Nibaran Chandra Dutt and Babu Charu Chandra Mullick. The arrangements, which were excellent, were in the capable hands of Mr. Kartick Chandra Bose, District Engineer, Calcutta Corporation.

Lakshmipur Sanskrit College Bhagalpur

The small village of Lakshmipur where the college is situate lies in a picturesque valley. The college was established in February 1911 by Thakur Partap Narayan Deva, the senior proprietor of the Lakshmipur estate, and received recognition 3 months later. There are six teachers in the college and instructions are imparted in Sahitya, Poetry, Dharama Shastras, Jyotis, Naya, Mimansa, Sankhya, Vedanta, Veda and Darshanas. There is also a fine library of Sanskrit books attached to the college. The founder has very liberally endowed it with a landed property yielding an annual income of Rs. 11,000 for its up-keep. Provision has also been made for the diet allowance of 100 of the best students there. Other poor pupils of the college are supported by the daily *sudabrata* attached to the Lakshmipur state.

The college hall was tastefully decorated on the occasion of the prize Distribution with handrolls, flowers and green leaves and the coronation picture of their gracious Majesties. The elite of Banka and Bhagalpur and the local zamindars were well represented on the occasion. Mr. Dixon, the collector of Bhagalpur, with Babu Sarada Prasad Sircar, the sub-divisional officer of Banka and Mr. Dacosta, the manager of the Lakshmipur Raj were received at the gate by B. Nadia Chand Dutta, the dewan of the Lakshmipur Raj. The Thakur Sahib received them at the foot-steps of the college building and garlanded Mr. Dixon. The Thakur Sahib in a small speech in Sanskrit proposed Mr. Dixon to the chair. Dewan Nadia Chand Dutta then expressed the strong indignation and horror of the Thakur Sahib, his officers, and his tenantry, at the dastardly attempt made on their Excellencies, the Viceroy and Vicerene, and their great joy at their miraculous escape and said that arrangements were made for offering up prayers in his temples for his Excellency's immediate recovery and that a telegram had previously been sent to his Excellency's private secretary to that effect. A welcome song was then sung. Dewan Nadia Chand Dutta read the English report of the college for 1911-12 and Pandit Nirsan Misra Vyakaranacharya, principal of the college read the Sanskrit report. There were then recitations by the boys. Several gentlemen then addressed the gathering in Sanskrit, English and Hindi. Then the president delivered an impressive speech expressing his satisfaction at the steps taken by Thakur Saheb for reviving the dying Sanskrit literature. A vote of thanks, was then passed. The notable feature of the whole function was that one blind boy named Soordas Misra was presented a prize for his wonderful memory. He is going up for the first examination in Sanskrit this year. The Thakur Sahib then announced that he would award a gold medal every year to the most successful student of the college and it will be named after Mr. Dixon. After a photograph was taken of the prominent persons present, the meeting dispersed after partaking of light refreshments.

A Correspondent.

Madras Christian College

College Day

The twenty-second College Day of the Madras Christian College was celebrated on December 27th 1912 at 5-15 P.M., in the Anderson Hall, with Rao Bahadur W. L. Venkataramaiyya of Berhampore in the chair, when a large number of past and present students of the college were present.

At 4 P.M., a social gathering was held when light refreshments were served to the guests. The guests then moved to the Anderson Hall where the meeting was held.

The toasts

As was customary the Chairman first proposed the toast of the King Emperor and in doing so he said that they all know well how His Majesty the King-Emperor had in a special manner endeared himself to his Indian subjects. When His Gracious Majesty visited India last year, he showed to his Indian subjects how deep and sincere was his love for this country. The message His Majesty sent to them from England seven years ago was followed up during His Majesty's Coronation visit by a watch-word of hope. In the memorable speech His Majesty made in response to the address of the Calcutta University, His Majesty assured them that the cause of education in India was very close to his heart and that it was his wish that all over the land should be spread schools and colleges from which should go forth loyal and useful citizens. Knowing fully well what a deep and sincere interest His Majesty took in Education, they who were assembled that evening under the auspices of the greatest Educational Institution in the

land must sincerely wish good for the King. They should all express their horror and indignation at the horrible crime that had been perpetrated in Delhi four days ago on His Excellency the Viceroy. That crime, so far as they could see, could not be traced to any just cause of grievances. It would not surprise any one of them when they discovered that dastardly deed from which all right thinking people had really disassociated themselves was the work of a mad man. The deed had created a thrill of the deepest horror throughout the length and breadth of the country in the minds of all right thinking Indians. In conclusion he said that it gave him great pleasure to propose the toast of the King Emperor. The toast was carried the audience standing, and it was honoured by the singing of the National Anthem.

The Chairman in next proposing the toast of the Madras Christian College—"its continued success and prosperity" said that when the committee of the Christian College Day Celebration invited him to preside on that occasion, he felt himself altogether unworthy to succeed those who had previously occupied the chair which he then occupied. But he thought, he being an old student of the College, that it was but proper on his part to accept the offer. He traced the history of the College and explained his father's relation to the same. In 1871 he entered the Christian College and went out in 1880 after completing his B. A. In the year 1881 he became a teacher in the College and served till 1891 and owed his present position to the Christian College more than to any human agency. One great reason why the Christian College had such a powerful hold on the minds of its students was due to the relationship that existed between the *Guru and the Sishya* (teacher and the taught.) The other reason was that it was a missionary institution. The chairman here pointed out the many good things done by missionaries to India and also referred to the work done by Dr. Miller in the cause of education in Southern India. He said that many persons who held prominent positions at present went out from the Christian College. In conclusion, he coupled the name of Dr. Skinner with the toast.

Dr. Skinner's reply

Dr. Skinner in reply to the toast said that it gave him very great pleasure to be present and to avail himself of the opportunity of meeting so many of his former as well as present students of the College. He thanked the Chairman for the kind words said about the College. The speaker then referred to the death of the late Rev. Mr. Craig and said that the College had lost one of its ablest teachers. He was also very sorry to miss Dr. Russell who had worked a great deal for the College and also referred at great length to the work of Dr. Miller in the cause of education.

Mr. Peter Pari Pillay then proposed the toast of Dr. Miller. He said that Dr. Miller was a great and noble representative of the greatness of Britain. He was acquainted with Dr. Miller for nearly half a century. The existence of this institution was entirely due to Dr. Miller's energy and force of character. The Rev. A. G. Hogg, here read the message of Dr. Miller, Mr. K. R. V. Krishna Rau Bahadur then proposed the toast of *Our Young Friends* and it was responded to by Mr. C. D. Subramania.

Travancore Colleges

A correspondent learns that the Government have sanctioned a grant of Rs. 3,000 to the Scott Christian College Nagercoil for getting down new apparatus &c. for the institution. It is understood that Mr. Labouchareiere, a professor in H. H. the Maharaja's College, Trivandrum will retire from service on the 30th March next. Mr. L. C. Hodgson, Principal of the same college, has addressed the Government on the desirability of the entertainment of an additional professor of History in the institution.

EDUCATION ABROAD

HOLIDAYS OF COLLEGE YEAR IN AMERICA.

Harvard gives fewest with Total of 117; Columbia most with Total of 128. Their Distribution.

The following statistics have been compiled showing that of the seven leading eastern colleges Harvard gives the fewest number of holidays. The holidays include the summer vacation of 1912 and the holidays during the academic year of 1912-13. Harvard is the only college to observe Columbus day. Four Colleges, Harvard Columbia, Brown, and Pennsylvania observe Washington's Birthday as a holiday. Memorial Day is observed by Harvard, Columbia, Dartmouth and Brown. Of all the Colleges Dartmouth and Brown are the only ones granting a mid-year recess toward the end of January. For the second time in her history Princeton declared a holiday on the day of the Yale-Princeton football game.

Of the whole year, Harvard gives 32.05 per cent. in holidays; Yale, 33. 15; Princeton, 33.83; Columbia, 35.07; Dartmouth. 32. 33; Brown, 33.97; and Pennsylvania, 34.52.

	Summer.	Thanksgiving	Christmas.	Easter.	Other days.	Total.
Harvard,	95	1	11	7	3	117
Yale,	98	1½	14	7½	0	121
Princeton,	98	4½	14½	5½	1	123½
Columbia,	104	3	13	5	3	128
Dartmouth,	84	1	14	14	5	118
Brown,	97	1	12	7	7	124
U. of P.,	99	4	12	10	1	126

Leeds University

The rapid developement of Leeds University from the Yorkshire College, which it was in 1882, when Sir Nathan Bodington joined it, till his death as first occupant of the Vice-Chancellor's chair in 1911, comes clear to light in the sympathetic memoir written by the Rev. W. H. Draper, rector of Adel, which has just been published by Messrs. Macmillan. The Volume is appropriately dedicated "To those that come after in the University of Leeds." In 1882 the college had 172 registered Students, seven professors, and an assistant staff of ten, including lecturers, and the fees paid by students for a year amounted to z 2,872. In 1911 the University of Leeds numbered 1,163 students, forty-one professors, and nearly 100 Lecturers, while students' fees amounted to £14,335. Thus largely under one man's guiding influence and administrative control, grew an institution which has already taken front rank among its kind, and which with Mr. Michael E. Sadler for its Vice-Chancellor, has triumphs in store no less decided. Financially it has been much indebted to the Clothworkers' and other great City of London Companies, who have generously backed the support of local business men. With a continuation of this local and and London liberality, an even greater future of academic and practical efficiency may be with certainty anticipated.

A Museum as an Educational Centre

The annual report of the Manchester Museum at the University of Manchester is published, and is perhaps one of the most interesting of an interesting series. It is probable that the public in Manchester and the county do not realise how much this is a public museum. A feature of the work of the Museum Committee which consists of University representatives and those of the City Council, with co-opted members, and two elected by the subscribers, is the programme of free lectures, that have made the "Manchester Museum Lectures" household words. The Council invites school parties to go round, and during the last year about thirty parties from various schools, colleges, and societies have been received at the Museum and conducted round by the assistant keepers. Increased use is being made of the Museum by the teachers in elementary and secondary schools. A visit to the Museum, with a lesson on some Natural History subject illustrated by Museum specimens, now forms a regular part of the work in many classes in the Manchester schools. A special room in which such classes can be held is greatly desired, and will, indeed, become necessary if the increased use to which the Museum is put for educational purposes is continued. During the past year the Students' Room attached to the Museum was placed at the disposal of small classes of school boys and girls, but it is not big enough to accommodate large classes. In many other cities in the provinces similar efforts to popularise the Museum as an educational centre are meeting with great success.

What becomes of the American College Graduates.

The United States Bureau of Education has presented to the public some statistics about the occupations of the College graduates of the country from 1642 to 1900. Statistics of 37 Colleges and universities furnished this material. Taking three periods a century apart, we have the following percentages :—

	1696-1700	1796-1800	1896-1900
Ministry	65.6	21.4	5.9
Law	1.6	30.5	15.5
Medicine	3.1	8.4	6.6
Education	4.7	5.7	26.7
Business	1.6	5.6	18.8
Public Service	9.4	1.1	1.0

At the close of the 18th century the ministry overshadowed all other professions and was chosen by about two-thirds of all the graduates. One hundred years later only about one-fifth of the graduates adopted this profession. At the close of the 19th century less than 6 per cent. entered the ministry. Education, which was selected by only a comparatively small number down to 1825, has advanced with great rapidity, until now it outranks all other professions and is chosen by over one-fourth of the graduates. Law at the end of the 18th century, was the profession of nearly one-third of all graduates and outranked all other professions at this time. Since then it has lost in relative importance, although the actual number of graduates entering this field has increased. Business claims an increasing proportion of graduates, until at present nearly one-fifth enter an active business career. Less than 1 per cent. of the graduates of these thirty-seven colleges now enter agriculture. A century ago the proportion was between three and four times as great.

BIBLIOGRAPHY AS A SUBJECT FOR SCHOOL TEACHING. *

By Henry R. Tedder, Esq.
Secretary and Librarian, The Athenæum, Pall Mall, London.

What is education? We are told that it is a training of the young for adult life; that it is to prepare men and women to take their places in the world. Yet we hear complaints on all sides from business people and practical men of affairs that youths come to them from school full of useless information imperfectly assimilated and without the faculty of putting their acquired knowledge to useful effect.

What is the fault? Is it that too many subjects are taught in schools and few effectually? Is it that methods are wrong? To neither of these questions am I capable of giving an adequate reply, nor indeed am I prepared to support the wholesale and perhaps unjust accusation suggested above. I merely wish to carry a little further certain suggestions submitted at a Conference of Library and Educational Authorities convened by the Library Association at Birmingham in May 1906, and to present a side of educational devolopment which I think deserves consideration.

A distinguished writer on educational theories, Prof. James Welton ("Encyclopædia Britannica," Vol. VIII, 1910), says: "It is in these latter times that the actual work of education is apt to lose touch with the culture of the community; for schools and Universities, which are the ordinary channels through which adult culture reaches the young, are naturally conservative and bound by tradition. They are slow to leave the old paths which have hitherto led to the desired goal, and to enter on new and untried ways." It is said by another authority that "we inherit two distinct educational traditions, the scholastic tradition of the grammar school and the apprenticeship tradition of the workshop" (Sir H. Ll. Smith in "Studies in Secondary education," 1892, page 2). In both of these traditions education has been identified with instruction, with the acquisition of learning or of skill. Long ago Pestalozzi said that "words cannot give us a knowledge of things; they are only useful for giving expression to what we have in our minds. He accordingly wished "to connect study with manual labour, the school with the workshop."

My contention is that the public library, with its rich store of the best modern literature in all departments, is the intellectual workshop with which every one should be familiar as early as possible. Young children are taught from books often of a poor literary quality, with the frequent result that at the earliest age they loathe the very sight of books which represent to them only the learning by rote of a dreary mass of uninteresting details. Herbart considered that the aim of instruction was the establishment of a many-sided interest in the mind of the learner. This many-sided interest cannot be induced by getting by heart the dry details of textbooks. In many schools there is a system of Nature study, which is a praiseworthy attempt to stimulate interest by showing children the very objects they read about in textbooks. This method is not, of course, entirely new, as in principle it was adopted at Dotheboys Hall. Cannot it be applied to books and literature? I am well aware of the progress made in recent educational methods to interest the young in the subjects they are taught, but I wish the practice of using books to be brought home to them. If, on the one hand, learning is too bookish, on the other hand, it is not bookish enough, inasmuch as it does not teach children to use books as keys to the locks to knowledge.

As I have mentioned, the Library Association has already under consideration the relations between public education and public libraries. At the joint conference at Birmingham I had the honour to submit the following resolution: "That, as the public library should be recognized as forming part of the educational machinery, it is desirable that children from an early age should become accustomed to the use of collections of books in special children's libraries, and that advanced students should be able to obtain in public libraries the principal books recommended by various teaching bodies." The resolution contained three closely related propositions of a wide-reaching character, which summed up a vast mass of recommendations which had been addressed to the Library Association from all parts of the United Kingdom.

The first proposition, that the public library should form part of the national educational machinery, was one to which great importance was attached. Complaints are sometimes formulated that public libraries are little better than places for the circulation of cheap fiction, but all librarians desire to see their readers peruse the best literature and do their best to induce them to turn from the exclusive perusal of fiction to the shelves devoted to history, science, and philosophy. Librarians and Library Committees are always ready to help the work of University Extension Centres. Some librarians act as local secretaries. Some libraries lend rooms. Many libraries help the National Home-Reading Union. In many places public lectures form a regular feature of the yearly work. These lectures are generally of a popular character, but some deal with technical, scientific, or literary subjects. They all aim at directing attention to the books in the libraries. Special book exhibitions

* A paper read at the Liverpool meeting of the Library Association, September 3, 1912 (abridged by the author).

are frequently held. In many other ways serious reading is encouraged.

The second proposition, that children from an early age should become accustomed to the use of collections of books in special children's libraries, is equally important. Since the passing of the Education Act of 1902, Library Authorities throughout the country have shown great activity in the formation of school libraries, and in many cases the Local Education Committee provides the funds and the Library Authority undertakes the administration.

The third and last proposition was a natural corollary of what went before. Students should expect to find in well equipped public libraries the technical works and standard books recommended by their teachers and lecturers. The resolution crystallized the united opinion of the many librarians and educationists who had favoured the Library Association with their views. It suggested no radical innovation, and indeed in some shape or other the proposals are in actual operation in most lending libraries.

What is Bibliography? There is still some difference of opinion as to what meaning is really conveyed by the term. The subject is a vast one, comprising: (1) the preparation of books, (2) the distribution of books, (3) the acquisition of books, and (4) the description of books, including cataloguing, every kind of general and special bibliography, classification, and incidentally the use of books in libraries. There are some who distinguish between "material" and "intellectual" bibliography, and discriminate between the outside and the inside of books; but in my judgement no book can be satisfactorily dealt with in its physical aspect without investigating its literary origin. There is, of course, a reasonable limit to what is required. We do not want a detailed appraisement of all books, nor yet elaborate classifications of human knowledge, but something more than accurate transcripts of title-pages and gossip about old books is essential in modern bibliography. It is the sole clue to the ever increasing labyrinth of books. No one would expect to include all these departments in the curriculum even of advanced education, but since bibliography is concerned with all books its methods can be applied to the most modest productions of the printing press and a knowledge of how to use books can be exemplified in the smallest collection. Bibliography is in no sense theoretical; it is essentially a practical study. It cannot be taught apart from books. It is only by handling books that you can get to know them. By the handling of books I mean something more than mere physical contact. There is a visual as well as a tactable handling. Bibliography includes not only the art of describing books, but the art of using books, and it is this side which I contend should form part of public instruction at every age.

Children's libraries now form part of most public libraries, and to many of them, both in England and in America, children are taken in class form by their teachers. I want to go a step further. I do not consider it the duty of a librarian to teach anyone how to use books, any more than it is his duty to teach the rudiments of reading and writing; that is the office of the teacher. I suggest that every school should possess a small model library as part of its equipment, with books of reference, and these libraries should be so graded that step by step the learner would become familiar in the course of his educational career with books of wider range. The early use of books is an educational requisite quite apart from the mere practice of reading. Children should be trained in the habit of using books as well as reading books, in order that when they arrive at riper years they may resort to the library as to a familiar home. They should be called upon to take an interest in the administration of the school library, and it should become an instinctive habit to have recourse to books when wanting to find facts. Most children never have an opportunity of knowing what real books are. At school they only see school books, at home they only see cheap novels in paper cover or more pretentious rubbish in calf. They never catch a glimpse of the great and living world of books, and never enter the many fields of mental enjoyment extending beyond the class of prose fiction. Existing school libraries do not supply the want. The style of literature they contain is frequently very poor and generally limited to story-books. As a rule, the children can only get a volume at a time, chosen by themselves at haphazard. Either there is no catalogue at all or its place is supplied by a feeble list of names, and they are not allowed to handle books except under strict supervision. Books for children should be rather above than on a level with their average standard of intelligence.

My proposal is that the teacher, having at his disposition a representative collection of books properly arranged and catalogued, will allow his pupils to handle specimens of the very books they have read about, and will show them how to follow up questions perhaps only casually referred to in their textbooks. The young scholar would have catalogue methods explained to him, how to refer to encyclopaedias and dictionaries, the reasons for shelf classification and shelf marking, how historical text-books are compiled from larger works and what are some of the printed materials of history, how geography is based upon books of travel, how to use concordances, indexes, and atlases—to mention only a very few subjects for library-talks. This is

the real art of practical bibliography. The study of historical sources now forms part of University teaching, but the study might profitably commence at a much lower age in connexion with the use of books of reference and bibliographical authorities. If the young people of this country were trained in the use of books and libraries from the earliest age, they would come as adults to the public library fitted in every way to obtain the advantages prepared for them at so great a cost of money and so great an expenditure of labour and skill. We talk much of the necessity of training librarians, we fit up libraries with every appliance, with all sorts of useful devices and every kind of index and catalogue, in order to facilitate the use of the library to readers, but it is the experience of every librarian that the grossest ignorance of books and of the most elementary library methods is common among even well educated men and women. Many grown-up people never seem to realize the difference between an author and a subject catalogue. The ordinary technicalities of a catalogue, the use of books of reference, the art of hunting up new subjects of inquiry through special bibliographies, seems to some persons knowledge of almost a superhuman character.

As books increase in number, as libraries multiply, as their contents become better arranged and more accessible, so it is evident that all men, whether busied in commercial pursuits or professional undertakings, whether they are scholars or merely seeking for relaxation, will rely less and less upon their private stores and more upon public libraries. As knowledge extends, as science develops and becomes more systematized, as technology grows in endless multiplicity of material interests, so must the literature of all these subjects accumulate to an extent far beyond the means of private individuals. Hence the public library will become more and more a necessity in the struggle for existence. To the question "What knowledge is of most worth?"—to which Herbert Spencer replied with emphatic iteration: "Science" and again "Science"!—the reply must now be given: "The knowledge of most worth is that of bibliography, which is the knowledge of the use of books and of libraries."

HENRY R. TEDDER.

USE AND ABUSE OF WATER AS A DRINK.

BY N. C. BHATTACHARJEE ESQ, M. A., B. Sc.

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I have been lately engaged in speculating and studying and to a smaller extent experimenting about the metabolism of water. But I find that the literature on the subject is rather scanty. It is true that the importance of water for the maintenance of life was properly recognised even before the sciences of Physiology and Botany came into existence. Much yet remains to be done. And the subject will open up a new field for original workers.

Our knowledge about the various uses of water may be summarised as follows:—

(i) Water is an integral constituent of the living matter. It forms a very considerable part of protoplasm. Beyond a certain range removal of water from protoplasm is very harmful and ultimately kills it.

(ii) Water acts as diluents of our blood and lymph. The tissue cells are not only surcharged with it but they are surrounded with water containing various substances in solution. They obtain their nourishment and oxygen from it, and throw their products of katabolism into this stream. Plant cells which are not similarly circumstanced contain a store of water (the vacuole) within their body.

It is true that in medical literature a good deal is written about the therapeutic uses of water. Water in moderate doses increases all the secretions and excretions of the body. It is a good diuretic and diaphoretic. These are the most important of the therapeutic properties of water. But when one consults any treatise on Physiology, where there is so much discussion about the amount of protein and salt one should take, or similar subjects, one sadly finds that little work about the metabolism of water has been done. "Is there any personal or specific variation in the amount of water consumed by different individuals or animals? Do climate, temperature, hygrometric condition of air, or the nature of food exert any influence on the amount of water consumed?" These are questions which are yet to be answered. It is probable that the attention of the great Physiologists living in dry and healthy climate and among population subsisting on a rich protein diet has not been drawn to the various abuses of water which we mean to point out in this paper.

An important point about the abuse of water I came across in connexion with the Beriberi disease. So I hope a few words about it will not be altogether out of place here. Two years ago I had an opportunity, or rather I was obliged to observe carefully some Beriberi patients. The period of observation lasted for a long time and at the end of it I came to a theory about the cause of the disease. When much higher men than myself failed to give a satisfactory explanation of the cause of the disease, my theory may as well be put before the world. At first I felt considerable diffidence in coming before the public with a

waste products. The extra carbohydrate and fatty food may induce extra oxidation in the body thus creating an abnormal quantity of heat in it. It is therefore easy to understand why after a rich meal a sensation of warmth is felt and we take more water to eliminate heat from the body. The waste products resulting from the oxidation of carbohydrate and fatty food are rather simple and are eliminated by the lungs and skin. But similar products from protein food are more complex and must be eliminated mainly by the kidneys. Hence in a diet rich in protein food consumption of plenty of water is an absolute necessity. This explains why the injurious effect of taking too much water, has been to a certain extent overlooked by western savants, for in countries where people take plenty of meat in their food and where the cold naturally makes people abstain from taking much water, the injurious effect of taking too little water was more patent than the reverse case. But in Bengal, where the majority of people, according to physiological standard, take too little protein, and where due to the hot and damp climate temptation to over drink water is considerable, the injurious effect of such act should be clearly stated. A poor man has a tendency to make up his deficiency of food by taking too much water. But he should know that such a course is ruinous. One can undergo starvation better when water is taken in small doses than when it is taken plentifully, for then the body uses up its store of food in a most economic way.

I shall now describe the result of some experiments to determine to a certain extent the physiological and psychic phenomena that are produced after diminishing the water intake to a considerable extent. The thirst which at first seems to be unbearable does not remain so; after a period of maximum thirst, the discomfort gradually passes away within an hour or two, a state supervenes lasting for a period of six to eight hours, during which there is no hankering after water, though a drink is considered a pleasant luxury. It was found that during this period perspiration almost disappeared even in summer; urine was scanty and coloured, mouth and skin were dry, faeces became hard. If there was much food in the stomach and intestines, a pain was felt on pressing the abdomen, even after a longtime after the last meal was taken. On drinking water this discomfort used to pass away within an hour or two. All these point that all the bodily secretions are considerably diminished. It was also found that the two process of over eating and under drinking could not be carried out side by side for a long time, with impunity. But attempt at underdrinking obliges a man to eat less, for," for want of salivary secretion he could not bolt his food properly and a sort of nausea is produced. When period of under drinking lasted about a month, it was found that diminution of daily water intake is the most effective remedy for cold; and also it was found parasitic skin diseases are either destroyed or are unable to attack the body during this period even though considerable risk to contagion was provided.

I explain these phenomena thus :—The sensation of thirst is limited to the pharynx; want of water in the circulatory system stimulates the nerve endings of the pharyngeal region and the sensation of thirst is produced. When a man is very thirsty he may gulp down a considerable quantity of water, but his thirst would not be appeased at once; it will take sometime before the water enters the blood stream, and after reaching the pharynx allays thirst. But if instead he sips a small quantity of water his thirst is appeased within a much shorter time and with a much smaller quantity of water. Thirst indicates that there is a fall in the blood pressure—and due to a deficiency in the volume of blood. The diminished volume of blood is normally made up by absorption of water from the alimentary system. If this supply is stopped the volume of blood would go on sinking and as a result a period of intense thirst is produced. But then the wonderful compensatory mechanism in nature comes into play. Normally the stream of fluid passing from the blood to the lymph is stronger than the one passing from the lymph to the blood; but this arrangement is reversed under stress of circumstances and the stream from the lymph to the blood becomes the more powerful one. And after sometime the deficiency in the volume of blood is made up by the passage of lymph to blood. After this period for about six to eight hours all the sources for the loss of water from the body is thoroughly controlled by checking the various secretions, and the water loss is reduced to a minimum.

Why the parasitic skin diseases are destroyed or are unable to attack the body, is explained in this way :—the parasites require food and water for their growth. Plenty of sweat with dead epidermal cells forms an excellent food for them. Diminution of sweat means not only loss of water but of food also, for without water to moisten them the horney epidermal cells would be too stiff for the parasite to utilise.

Diminution of water intake is a most effective remedy for cold. This is probably caused by two factors. (i) Diminished secretion in the air passages decreases the food and water necessary for the growth of the bacteria which cause the cold. It is a common observation that the bacteria flourish best in a fluid medium, than in a solid or semisolid medium. The bacteria

can not penetrate the latter substances readily. The second factor is more important. I shall therefore discuss it in a little more detail. The point is that diminution of water-intake by drawing lymp from tissue spaces to the blood increases the bactericidal property of plasma to a very considerable extent. And when this powerful plasma will pass any tissue infested with bacteria it will kill them much more effectively than ordinary plasma of blood alone would have done. From these considerations it is clear, that diminished water intake at times would not only help one to destroy the bacteria infesting the nose and windpipes but also any other bacteria infesting any other part of the body. The strongly bactericidal blood while passing through those regions will kill them and either prevent or cure the disease. When a plague or infections disease is raging round, the best plan is to avoid catching infection, but when there is no way out of it the second best plan is to diminish at least occasionally the water intake of the body. It has been proved by ages of experience that in time of contagion it is not the strongest man eating and drinking merrily but rather the more abstemious man, that more frequently escapes infection.

The views I have expressed above about the metabolism of water, can reconcile to a considerable extent the views of Mr. Chittenden and his adversaries about protein metabolism. I found that all Mr. Chittenden's followers during their experiments subsisted on very limited supply of water. Their urine output was reduced to about one third the normal. The amount of sweat excreted is not given but it may be presumed this also must have have been considerably diminished. This explains why people adopting Chittenden's diet may have failed to corroborate his results if they did not make a corresponding diminution in their water intake.

References :-

(1) Physiological Economy in nutrition (Chittenden) page 30.

It is a noticeable fact that with a diminished intake of protein food there is far less thirst, and consequently a greatly decreased demand for water and other fluids.

(2) Ibid. In one case the average daily amount of urine secreted being 468 c.c. only as compared to 1500 c.c. given in ordinary text books of physiology.

(3) "The deficiency of circulating fluid caused by bleeding is soon remedied by a transfer of fluid from the tissues to the blood."

Elements of Human Physiology—Starling : Chap VI. Section 9.

"The transfer of fluid from tissues to blood is extremely rapid.

The presence of these salts (Na, Ca, K Salts.) in normal proportions is an absolute necessity for heart activity."

Howell's Text-Book of Physiology pp. 550.

(4) Recent advances Physiology :—pp. 271-2.

Critical Temperature of an animal.

The heat production may be greatly and suddenly increased by rich feeding—even to the extent of 44 percent. Foodstuffs vary in this respect, the effectiveness of protein, carbbohydrate and fat being as 20 : 10 : 7.

(5) Lusk : "The Scince of Nutrition," p. 118.

The effect of copious water drinking upon protein metabolism has been made the subject of various studies. A small increase in nitrogen elimination has usually been noted. This was first established by Voit, who explained it as due to an increased circulation which influenced the the flow of intercellular fluids. Heilner has recently shown that giving 2000 c.c. of water to a fasting dog on two successive days raises his urinary nitrogen 3'15 grams to 4'09 grm. and 3'58 grms on the two days of water ingestion and then the nitrogen excretion falls to 2'22 and 2'62 on the following days. In this experimen carbon dioxide excretion was very slightly increased and the temperature of the dog was not affected. The quantity of urine rose from 90 c.c. to 2050 c.c.

Straub found that an extra injestion of 2000 c.c. of water in a man who was in nitrogen equilibrium on a diet containing 20'56 grms of nitrogen had no effect on protein metabolism ; whereas Hawk, who gave less protein nitrogen but more water, found that the injestion of 1500 c.c. of water causes the urinary nitrogen to rise from 11.03 to 12.48 on the first day and 11.82 on the second day, with a fall to 10'91 grms on succeeding day when no water was given. Hawk interpretes the action of copious water drinking as two-fold : first, to cause a removal of any accumulation of nitrogenous decomposition products from the organism, as was indicated by the greater increase of 12'8 percent, in the nitrogen elimination of the first day : and second, to cause a true increase in protein metabolism, as was indicated by the smaller increase of 6'8 percent on the second day of water ingestion.

N. C. BHATTACHARJEE.

CHEMISTRY IN EVERY-DAY LIFE—II.

By J. N. Rakshit, Esq.

(*Continued from page 109*).

Condensed Milk and Indian Ignorance.

The difficulty of obtaining fresh milk and the undue good faith in foreigners advanced in science have largely facilitated the adoption of condensed milks by infants, invalids and others as their food. No doubt, in some cases such adoption is inevitable or even desirable but on our land where fresh milk can be comparatively easily obtained it is far better to avoid preserved foreign milks for common use. Apart from bacteriology I shall treat the subject from chemical standpoint only to show how it is unsafe to use articles simply relying on the advertisement of the manufacturers which has a maximum tendency to illude men cautiously keeping within the limits of law. The proper meanings of the terms that are chiefly used on labels are most straightforwardly described below and who cannot avoid the use of such milk should always bear in mind.

Condensed milk, evaporated milk (unsweetened), is milk from which a considerable portion of water has been evaporated* and contains not less than 28 per cent of milk solids, of which not less than 27·5 per cent is milk fat.

Condensed milk (sweetened) is milk from which a considerable portion of water has been evaporated* and to which cane sugar has been added and contains not less than 28 per cent milk solids, of which not less than 27·5 per cent is milk fat.

Skimmed milk is milk from which a part or all of the cream has been removed, and contains not less than 9·25 per cent of milk solids.

Pasteurized milk is milk that has been heated below boiling but sufficiently to kill most of the active organisms present and immediately cooled to 50oF or lower.

Sterilized milk is milk that has been heated at the temperature of boiling water or higher for a length of time sufficient to kill organisms present.

Cream is that portion of a milk, rich in milk fat, which rises to the surface of milk on standing, or is separated from it by centrifugal force and contains no less than 18 per cent milk fat.

Evaporated cream or *clothed cream*, is cream from which a considerable portion of water has been evaporated.

* The evaporation is conducted under diminished pressure, a very sensible decomposition of the proteids and probably of the fat occurs during the operation.

Separated milk is the secondary product obtained when the cream is removed from milk by a centrifugal apparatus. By this process a very perfect separation of fat can be effected with great rapidity.

Butter milk is the product that remains when butter is removed from milk or cream in the process of churning.

The average constituents of cow's milk are :— total solid—12·6, fat—3·5, proteids—3·4, milk sugar—5·0, ash—0·7 per cent. A good condensed milk, when properly diluted according to the direction given, should represent the fresh milk in every respect. Such milks are, however extremely rare, condensed milks often contain about 40% cane sugar or objectionable quantities of preservatives like boric acid, salicylic acid and formaldehyde.

But the worst of all is that considerable portion of consumers has no idea how often the condensed milks contain less ammounts of fat than is required by an infant. The manufacturers of such milks have a very good advantage over such ignorant Indians, where they easily find a market for their fat extracted milk, utilising cream for their own purposes and exporting to other countries. Fat is very essential food to an infant. Now it must be a horrible practice to feed an infant with "separated" or "skimed" milk, the continuation of which is in fact a slow but sure indirect help for the child for its extinction. The following quotations from the regulations of a foreign country will make it evident how far it is safe to use articles which are distinctly labelled "FOR EXPORT."

"Regulation 21. *Preparation of food products for export* (section 2)—(*a*) Food products intended for export may contain added substances not permitted in foods intended for interstate commerce, when the addition of such substances does not conflict with the laws of the countries to which the food products are to be exported and when such substances are added in accordance with the directions of the foreign purchaser or his agent."

"(*c*) Food products for export under this regulation shall be kept separate and labelled to indicate that they are for export."

"(*d*) If the products are not exported they shall not be allowed to enter interstate commerce."

In connection with this a modified convenient scheme for the analysis of condensed milk is described, which may be useful to a student of analytical chemistry.

Analysis of Condensed Milk.

10 Grms. of condensed milk is weighed in a beaker and washed in a 100 c. c. measuring flask and made up to 100 c. c. For analyses this solution is to be used.

Total solid :—20 c. c. of solution is evaporated in a weighed flat platinum basin on water bath till constant weight is obtained. It takes about 6 to 8 hours. And percentage of total solid is calculated.

Ash :—The residue obtained above is ignited at dull red heat and weighed for the dertemination of percentage of ash.

Fat :—10 c c. solution is taken in a 200 c.c. graduated stoppered cylinder and 10 c.c. of ordinary strong hydrochloric acid is added. Then it is immersed up to the liquid in a boiling beaker of water till the mixture becomes dark-brown. It takes about 8 to 12 minutes. When well cooled it is carefully shaken with 30 c.c. of ether and allowed to stand when a layer of ether will separate, but if a *clear* layer does not separate it is to be shaken with an additional quantity of ether. The upper layer is taken off by means of a pipette very carefully excluding the lower layer or emulsion, and is kept in a 200 c. c. stoppered separator. Such extraction is repeated till whole emulsion breaks up on standing for a few minutes also the lower layer reduced to a minimum bulk. The ether is now shaken with 20 c. c. of distilled water and rejected, such washing is repeated till water remains colourless after shaking. Evaporating the ether on water bath in a weighed flask the weight of fat in 1 gm can be known and hence the percentage.

Proteids :—10 c.c. of the solution and 20 c.c. concentrated sulphuric acid are taken in a long-necked pearshaped Jena glass flask and about 0·5 gm of mercury, or its oxide or sulphate is added. The flask is fitted in a slightly inclined position and heated so strongly as some vapour may escape. The heating is continued till the contents become quite colourless. When cooled it is diluted and transferred into a larger flask (copper flask is preferred). After neutraltised with caustic potash 10 c. c. of 5% potassium sulphide solution is added. Next it is usually distilled with excess of alkali as Kjeldahl's methods and absorbed in 50 c c. of decinormal sulphuric acid. The nitrogen of protieds is obtained as ammonia. The percentage of protieds is equal to the percentage of nitrogen multiplied by 6·33.

Milk sugar and cane sugar :—50 c.c. solution is taken in a 100 c.c. measuring flask and about 16 drops of 2% citric acid solution is added. By slight agitation the proteids coagulate leaving the liquid quite clear. If the liquid does not become clear with 10 drops of acid more is to be added avoiding excess otherwise the turbidty may reappear. Then it is made up to 100 c.c. and filtered. Triturating the filtrate with 10 c.c. Fehling's solution the number of c.c. which contains 0.067 gm. of milk sugar is obtained and hence the percentage of it in the original substance.

For the estimation of cane sugar 50 c.c. of the filtrate is boiled with another 3 c.c. citric acid solution for about 20 minutes and on cooling made up to 100 c.c. By this process the cane sugar is inverted leaving the lactose unchanged. Triturating this solution the amount of cane sugar as invert plus the lactose is obtained.

Following is the proof of a formula for the estimation of cane sugar in the presence of milk sugar :—

Let 10 cc. F. S. require a cc. of 5% sol. (before invertion
" " " b " " " (after ")

$\therefore$ F. S. reqd. for lactose in b cc. $= \frac{10\,b}{a}$ c. c.

& " " invert sugar " " $= \frac{10\,(a-b)}{a}$ c. c.

$\therefore$ 10 c.c. F. S. required for invert sugar only $= \frac{ab}{a-b}$ cc.

$\therefore$ p. c. of cane sugar $= \frac{0.0475 \times 100 \times 100}{\frac{ab}{a-b} \times 5} = \frac{95(a-b)}{ab}$.

J. N. RAKSHIT.

LITERATURE OF THE ROMANTIC AGE. 1798—1832.

(CONTINUED FROM PAGE 207)

Dr. Herford says, "English poetry in the age of Wordsworth had three characteristic haunts. It throve in seclusion among the mountain glens of England, in society among her historic Border lands, and in exile beyond the Alps. Stowey and Grasmere, Tweedside and Ettrick, Venice and Rome were the scene of poetical activities as alien as the places, and yet all embodying some element of the Romantic revival." In all these the dominant tendency was nature, and the harmony of man and nature.

"About Wordsworth, Scott and Shelley" continues Prof. Herford "the most complete embodiments of these three genres, the other conspicuous poets grouped themselves. Coleridge stands close to Wordsworth; Moore and Campbell somewhat further from Scott; Byron and Keats and Landor at various distances from Shelley. Chronologically, the first group is slightly earlier than the second, and both are separated by a wide interval from the third, Wordsworth's poetry culminating between 1798 and 1806, Scott's between 1805 and 1810, Shelley's in 1818-22".

If nature had a votary well worthy of her, it was certainly Wordsworth, whom nobody excelled in Nature-worship. To him, Nature was no dead, inanimate object, but a living and vital principle. To him, the simplest flower is not a botanist's specimen,

but it has a life, a spirit, which indicates the presence of the Diety Himself. The objects of Nature remind him of the Highest Being, whose omnipresence he asserts in a more than one attempt; and this appreciation of Nature was not the growth of a single day. He had been used to be absorbed in meditations about the mysteries of nature from his very boyhood. "His real education", says Prof, Webb, "from his earliest childhood, was received in Dame Nature's open-air school, among river-side meadows, and wooded hills, or, later, amid the solemn silences of mountain and lake". When out 'a-nutting', he would commit ravages upon the trees, but instantly his conscience would prick him, and he would cry out with a heart sore-afflicted

"There is a spirit in the woods."

It is useless to get up an anthology of verses, incident upon this aspect of Wordsworth's nature. The most representative poem of Wordsworth, which fully emphasises and clearly sets forth the poet's view of Nature is *Lines written on Tintern Abbey*. In these lines, we find how the course of time changed the physical enjoyments of Nature's endowments to spiritual perception of the same, in Wordsworth's case.

"For I have learned
To look on nature, not as in the hour
Of thoughtless youth; but hearing often times
The still, sad music of humanity,
Nor harsh nor grating, though of ample power
To chasten and subdue. And I have felt
A presence that disturbs me with the joy
Of elevated thoughts; a sense sublime
Of something far more deeply interfused,
Whose dwelling is the light of setting suns,
And the round ocean and the living air,
And the blue sky, and in the mind of man:
A motion and a spirit, that impels
All thinking things, all objects of all thought,
And rolls through all things."

The poet loves the 'meadows,' the 'woods' and the 'mountains,' as much as he did before; but the nature of his love now, is different from what it was before.

"For nature then
(The coarser pleasures of my boyish days,
And their glad animal movements all gone by)
To me was all in all.—I cannot paint
What then I was. The sounding cataract
Haunted me like a passion: the tall rock,
The mountain, and the deep and gloomy wood,
Their colours and their forms, were then to me
An appetite; a feeling and a love,
That had no need of a remoter charm,
By thought supplied, or any interest
Unborrowed from the eye.

Ode on the Intimations of Immortality is another in which we find this transition illustrated. The most pronounced and emphatic declaration it gives is what is known as Wordsworth's *Idealism*. The poet felt a divine charm and fascination in the surrounding objects of Nature, when he was a child; but he grew up in years, the charms fell off, and he no more found in those objects, the charms and the beauties of heaven. The explanation offered is that, during his childhood, he had been nearer Heaven, where he had been before birth: when he was born he dragged in his train cloud of heavenly glory, which enveloped, for him, the objects of Nature with a divine light. With the increasing years on Earth he goes further and further away from the glory, which he brought as his heritage, till at last it fades away, leaving no other memento, but something like a faded perfume.

"There was a time, when meadow, grove, and stream,
The earth, and every common sight,
To me did seem
Apparelled in celestial light,
The glory and the freshness of a dream.
It is not now as it hath been of yore;
Turn wheresoever I may,
By night or day,
The things which I have seen I now can see no more"

Thus we are introduced into the doctrine of "Pre-existence"—a question on which the philosophers have never agreed. We existed in this world prior to our present birth, and logically we will so exist in future. Wordsworth's creed with regard to "Pre existence" differs from that of Plato. What the latter wished to emphasize is that our experiences of the earthly life, gradually puts us in mind of our past experiences; but Wordsworth gives, for the child the whole benefit of the recollection of the past, and takes it away from the man, giving him all but absolute oblivion of this celestial recollections. Thus to Plato, Man is the best philosopher, inasmuch as his mind is the repository of the heavenly glories, that was his once; and to Wordsworth, Child is the best philosopher, inasmuch as he, more than the man is the repository of these. Prof. Herford's comparison of *Tintern Abbey* and *Immortality Ode* is instructive, and I quote from his *Age of Wordsworth*, as the last word on the subject:

"The *Ode* resumes the theme of his loftiest previous utterance, the *Tintern Abbey*. In both the poet broods over the contrast between the rapture of his earlier communion with Nature, and the more sober and meditative visions of his maturity. In both, the 'philosophic mind' of mature years is regarded as a compensation for the loss of the earlier ecstasy. But in the *Tintern* the ecstasy is conceived as a state of intoxicated and 'thoughtless' sensation, which the riper mind with its spiritual vision overcomes; in the *Ode* it is an implicit revelation which the riper mind interprets and unfolds. The splendour of youth's vision does indeed die away, but the primary instincts which generate it persist as indestructible elements in all experience—clues by which the soul may 'in a

moment' recover in thought the divinely apparelled universe it once beheld.

Wordsworth was also a lover of Man. If Nature was to him symbol of the Diety, Man, too, was intimately connected with Nature.

"To her fair works did Nature link
The human soul that through me ran;
And much it grieved my heart to think
What man has made of man."

Solitary Reaper, *Stepping Westward* and a host of other poems, belonging to his Scottish experience, testify to his love and appreciation of Man, as a part and parcel of Nature.

Nor does he despise the animal life. His *Fidelity*, *Favourite Dog* and *The Hart-leap Well* are instances of his recognition of the Immanency The last named poem is a clear avowal of the belief that

"The Being, that is in the clouds and air,
That is in the green leaves among the groves,
Maintains a deep and reverential care
For the unoffending creatures whom he loves."

It ends with the moral

"Never to blend our pleasure or our pride
With sorrow of the meanest thing that feels"

One striking thing about Wordsworth's poems is the absence of love pieces. Not to speak of frivolities, even love-poems of very serious nature, he does not give us, but the few poems on *Lucy*, and *She was a Phantom of Delight*. Poems of love have been the crowning glory of many a British poet. Mathew Arnold, in the modern times, has 'Switzerland'; so has many others. But Wordsworth can boast of very little except those just mentioned. His memoirs on the Highland tour have something of the sensibility and touch of that refined passion. But they are more in the line of his love of Nature and Man, than in anything else. Indeed, everything he appreciates, he appreciates through Nature. He loves Nature to a passionate degree, and through her he loves man. Each is the embodiment of the Higher Power, that controls the destiny of the Universe.

Nor can one afford to ignore, when treating of such a subject as Wordsworth, the ideas of Independence and Liberty, which form no small and insignificant chapter of his life. On the eve of the French Revolution, the whole Europe was pervaded with a spirit of liberty. The reverent study of Nature opened the eyes of the philosophers to the fact that everything in this world is living and capable of feeling. It is not only the higher aristocracy that lives and feels but it is also the Commoner, as well as the Low that has every right to be. Hence, it may be said, and with absolute truth, that the physical revolution was only an outward manifestation of the spiritual revolution—I mean, revolution in thoughts and ideas—that was going on in the minds of entire Europe. And this spirit, of course, failed not to influence the poets of the age, and specially a poet like Wordsworth. He was on the point of joining the Girondist party, and would have committed himself had not a peremptory summons from home, brought him to his senses. When, afterwards, he was shocked by the excesses of the Revolution, he found every reason to congratulate himself on the dawning of senses, which had saved him from imminent guillotine. Many of his poems and sonnets speak of his feelings about the great Revolution.

Another and a far more important chapter of Wordsworth's life is his meeting with Dorothy Wordsworth. A sympathetic meeting, it had much to do in developing the art of the poet. This angel of a sister was no less then an inspiration for our poet. "My sister Emmeline" was instrumental in opening Wordsworth's eyes by many a mystery of nature, to which he had hitherto been blind.

"She gave me eyes, she gave me ears;
And humble cares, and delicate fears;
A heart, the fountain of sweet tears;
And love, thought, and joy."

One can hardly do justice to a subject like this, specially when he has to keep within hard and fast limits. I shall therefore take leave of Wordsworth, after referring to his principal classical poems,—*Laodamia Dion*, and *Lycoris*. Of Wordsworth's prose, which is by no means insignificant, I shall have something to say in future.

Wordsworth, Coleridge and Southey were termed poets of the "Lake School." We need attach no more than mere coventional importance to this term, because neither Coleridge nor Southey was any more of the school of Wordsworth than Cowper was. The only point common between them was that all three were Romantic poets. In fact, no such school existed, and we have not been able to find out anything like what may be called the "characteristics of the Lake school."

Much of what is important about Coleridge has been said in connexion with *Lyrical Ballads*. Coleridge was a poet, a philosopher and a prosaist. He was, as he said of himself, "Indolence capable of energies." Indeed, we find very few who have so much latent energy in him as this man; but he allowed his power to go to rack and ruin. His home was to him no sanctuary, but a place of torment, insufferable, and he had put himself under the pernicious habit of opium-drinking.

Coleridge's best poems were written between 1797 and 1798. Of his poems, few are destined to come down. *The Ancient Mariner*, *Christabel* and *Kubla Khan* are three poems, treating of supernatural or preternatural subjects. The passion of imagery in *Christabel*, the music of

Kubla Khan, and the love of beauty in *The Ancient Mariner* will always remain a living monument for Coleridge's poetic achievements. If to these are added his odes to *Dejection* and *France* and *The Hymn before Sunrise in the valley of Chamouni* we have the "Golden Treasury" of Coleridge.

(To be continued)

AJAX.

REVIEWS AND MINOR NOTICES

JUNIOR GEOGRAPHY. By G.C. FRY, M. Sc. (London: University Tutorial Press Ltd.) 2s. 6d.

The book mainly intended for the Cambridge Junior Local is generally suitable, for junior and middle forms of schools. First, Physical Geography is treated, as a rudimentary knowledge of this subject is indispensable, either for the intelligent use of an atlas, or for reading general descriptive geography. The book is quite up-to-date. The special novel feature is the Tables and Statistics which give the pupils an insight into comparative Geography.

LESSONS IN CITIZENSHIP. By A. J. WALDEGRAVE (London: Thomas Nelson and Sons.) 1s. 6d.

The lessons are mainly based on the "Graduated Syllabus of Moral and Civic Instruction for Elementary schools" issued by the Moral Education League. The author very well explains the object of the book in his preface. "Mr. Thiselton Mark in Volume X. of the Board of Education's Special Report, writing on the subject of 'Moral Education in American Schools' remarks on the growing opinion to the effect that something more is wanted than the old-fashioned book of civics, which was simply a compendium of "governmental facts"; the present volume is an attempt to meet this requirement in some degree. It is hoped that most of the "government facts" with which it is desirable that the pupils should become acquainted have been mentioned in the course of the lessons; but the imparting of the knowledge of these has been regarded throughout as of much less importance than the developement of a vigorous civic spirit, and a strong sense of the reality of social independence'

LESSONS IN INFANT MANAGEMENT. By FLORENCE LESSELS MATHER. (London: Thomas Nelson & Sons.) 1s. 6d.

The book is designed to meet the requirements of teachers who wish to teach the important subject of Infant care & Management and will also be found useful to Matrons.

FOLK TALES OF HINDUSTAN. By SHAIKH CHILLI. (Allahabad: The Panini Office, Bhuvaneswari Asrama, Bahadurganj.) Rs. 1-12 as.

The stories are written in excellent style and as *The Review of Reviews* very rightly says, they recall the delightful romance of the Arabian nights. The work has been recommended by the Directors of Public Instruction United Provinces of Agra and Oudh, Panjab and Central Provinces, as a book suitable for the libraries of colleges and high schools. We recommend the book strongly for school classes and we hope the Indian Universities will put its name among the list of books under English for the Matriculation Examination.

THE IDYLLS FROM THE SANSKRIT. By RALPH T. H. GRIFFITH. M.A., C.I.E., Late Principal, Queen's College Benares. Edited by Mahamahopadhyaya Pandit Adityaram Bhattacharjee, M.A. (Panini Office Allahabad.) Rs. 2. SCENES FROM RAMAYANA by the same author (Re. 1-8).

Now that "Stories from the Ramayana" and such other books find a place in the recommended books in English Literature for the Matriculation Examination of the Indian Universities we see no reason why these books should not be prescribed. The printing, binding and got up of the books are excellent.

FAMOUS GALLERY POST CARDS. Printed and Published by Kunstanstatl Stengel & Co., Ltd, DRESDEN, GERMANY.

We are glad to acknowledge a few copies of this series. These are excellent reproductions of the master pieces of the great artists, whose work are amongst the priceless treasures of art galleries all over the world. They are correct facsimiles of the actual coloring painted by the master hands of the great artists. This collection forms a beautiful miniature gallery and is unsurpassed in every respect.

SCIENCE NOTES

Solid oil as a marine fuel

The question of a solid fuel for ocean liners in the shape of solidified petroleum is being taken up of late in Europe, and the outlook for this kind of fuel seems promising. Tests have been made in many countries with spray fuel burners, but when it came to actually applying these on shipboard obstacle arose, as the new method would lead to a radical transformation of the existing apparatus. Not only are special oil burners needed for the furnaces, as well as regulating appliances, but the devices for loading the liquid

combustible on board would need to be changed. Besides, great storage tanks are needed for the liquid and the action of the latter upon the walls of the tanks would be strongly felt when the vessel is rolling at sea. It was decided quite recently at an important meeting of shipowners at London to go into the production of solidified petroleum brickets on a large scale. These are obtained without any great chemical manipulation. The crude oil is boiled and to it is added a certain amount of stearic acid with an alcoholic solution of caustic soda. Upon cooling, there is obtained a transparent mass somewhat resembling glycerine soap, and it has sufficient cohesion to allow of making it into square-shaped brickets. These are easy to handle, as they are not brittle nor do they cause dust. Such blocks have a slow and very regular combustion owing to their unformity of structure. The weather does not seem to affect them, and they always remain clear. Even boiling water is said to have no effect on the bricket. The heat production from them is such that a ton of solidified petroleum serves instead of $2\frac{1}{2}$ tons of coal. The great saving of space on shipboard is evident, and another point is the great all-around economy realised for producing an equal amout of steam. Some British naval engineers studied the question and concluded that for a single trip of a Cunard liner from England to New York and return the lowest figure for the saving would be 60,000 They also reported the following points in favor of the new fuel: 1. No appreciable modification of the furnaces or bunkers is needed. 2. The brickets burn very well in open furnaces. 3. They have a very high calorific power. 4. No inflammable gas is given off under the action of heat in the furnace. 5. They burn slowly without running of liquid, nor is there any cracking or explosion. No ash is left 6. Their regular shape facilitates storing. and there is no space lost. 7. The brickets harden with time and reach a great crushing resistance. 8. The range of the vessel will be much increased which is a capital point for war vessels. From another point of view, it is held that the navigation companies will be more inclined to increase the speed of the ocean liners, since they are able to obtain high steam pressure at a much less cost for fuel than before. On the whole, the new method appears to be a promising one, and a great success is predicted, for the solidified petroleum owing to its low price and its adoption may prove to be rapid in the near future; for liquid petroleum would only be able to replace coal in a gradual way, owing to the great cost of changing over furnaces and bunkers.——"SCIENTIFIC AMERICAN"

The Metals in Antiquity

In his Huxley memorial lecture last month on the antiquity of metals, Prof. Gowland dealt with a subject of particular interest to those who teach chemistry by the historical method, or, as some prefer to say, in the order of discovery. Of the commoner metals, gold, iron, and copper occur native, and were doubtless the first to be known, but the use of native metals was insufficient to affect appreciably the old stone-age culture. Gold, as found in the sands of rivers, was practically useless. The oft-quoted suggestion that the earliest used iron was native, whether of metoeric or telluric origin, has no evidence on which to stand. The fact is that iron ores are reduced to metal at a considerably lower temperature than the ores of copper. (Any schoolboy with a blowpipe and charcoal can verify this). There is evidence of iron-smelting at a remote date in Asia and Africa, long before the first European smelting was practised near the head of the Danube. Nevertheless, copper, or its alloys with tin, antimony or arsenic, was the first metal to be put to practical use, and the discovery of the smelting-furnace dates from the camp-fire ringed with stores, among which there chanced to be a lump of copper carbonate, tin stone, or haematite.

Brain Weights

In point of brain weight, says a scientific exchange the following in the order named are the twelve leading names, the weight being indicated in grammes: Ivan Tourgenif, Russian novelist, 2102: Joseph Bouny, French jurist 1935, George Cuvier Franco-German naturalist, 1830; E. H. Knight, American mechanician, 1814: Frans X. Kraus, German theologician, 1800; John Abercrombie, Scottish physician, 1786, Benjamin F. Butler, American statesman, 1753: Edward Olney, American mathematician, 1701: Herman Levi, German composer, 1690; A. Winchell, American geologist, 1666: William M. Thackeray English novelist, 1058, Rudolf Lenz, German composer 1036.

Sericulture in Bengal Working of the Silk Committee

The Silk Committee of which the Director of Agriculture, Bengal, is President and the representatives of the principal silk firms in Bengal are members, continued to be in charge of the sericultural operations in this province observes the Bengal Government. A substantial advance towards

the supply of pure and healthy seed to the rearers was made in the appointment for a period of three years of a French expert in hybridisation. This gentleman, M. Lafont, began work in January, and has already raised a considerable quantity of hybridised seed which has been supplied free to a number of rearers. The result of the experiment is awaited with interest. The acknowledgments of Government are due to Messrs. Anderson, Wright and Co. who not only secured the services of the expert from Lyons but are also making a substantial contribution towards the cost of his experiments.

The Silk Committee has evolved a scheme by which it is intended ultimately to afford a supply of pure seed for the whole province through the medium of central nurseries under efficient supervision. The establishment of such nurseries must of course be a gradual process, and their success must depend on whether they can supply pure seed at a price which is at once sufficient to cover expenses and within the means of the rearers. There are now 19 nurseries or rearing houses with mulberry plantations attached to each, but some of the smaller nurseries will nobably be closed on the establishment of central nurseries.

SPORTING

The Jam Sahib of Nawanagar, a Character Sketch.

Mr. A. G. Gardiner writes the following character sketch in the *Daily News and Leader* :—

The last ball has been bowled, the bats have been offed and put away, and around Lord's the grand stands are deserted and forlorn. We have said farewell, too, to cricket, we have said farewell, too, to cricket's King. The game will come again with the spring and the new grass and the burgeoning trees. But the King will come no more. Jam Sahib is forty, and, alas, the Jam Sahib is fat. And the temple bells are calling him back to his princely duties amid the sun-shine and the palms and the spicy garlic-smells of Nawanagar. No more shall we see him tripping down the pavillion steps, his face wreathed in chubby smiles, no more shall we see it in the jolly sunshine through the live-long lay and watch his incomparable art till the evening shadows fall athwart the greensward and send us home content. The well graced actor leaves the stage and becomes only a memory in a world of happy memories. And so "hats off" to the Jam Sahib—the prince of a little State, but the King of a great game

There have been Kings before him to whom we have joyfully bowed the knee. There was he of the great black beard who first captured our idolatry in the far off days when the Three Graces arose in the West. What a Vulcan the man looked. What a genius he had for the game ! "I put the ball where I like," said Carpenter after bowling to him, "and then he—well, he puts it where he likes," and F. R. Spofforth—who can forget those thrilling days in the seventies when he came like a scourge from afar and swept British cricket before him ? What a revelation he was of pace and passion. How stealthy his approach, how astonishing his leap in the air, how terrific the blot he sped ! And Lohmann of many gifts, so easy so various so fresh and original. And Johnny Briggs, that incomparable comedian. What duels of cunning and resources have we seen between him and Abel in the old days at the Oval. And A. G. Steal—do you remember that 188 against Australia at Lord's in the early eighties. Grace had failed and Lucas had failed and the day was dark for England. Then supported by Richard, Barlow, Steel slowly retrieved the day, broke the bowling captured it, smote it. There in succession he drove—was it not the great George Giffen himself ? —into the crowd, and with each stroke the temperature rose higher and the ring was a vision of waving hats, handkerchiefs and the sound was like the breaking of a great sea on a ringing shore. I think we must have been more in those days. Perhaps it is that we were younger.

Yes, there were giants before the Jam Sahib. And I think it is undeniable that as a batsman, the Indian will live as the supreme exponent of the Englishman's game. The claim does not rest simply on his achievements although, judged by

them, the claim could be sustained. His season's average of 87 with total of over 3000 runs is easily the high water mark of English cricket. Thrice he has totalled over 3000 runs and no one else has done it once. And is not his the astonishing achievement of scoring two double centuries in a single match on a single day not against a feeble attack but against Yorkshire always the most resolute and resourceful of bowling teams.

AMERICAN FOOT BALL.

The Inter Collegiate Foot ball championship of 1912 was won by Harvard in the south and east, and by Wisconsin in the west. There was no game between Harvard and Wisconsin.

The All-India Chess Tournament.

The finals of this tournament, which has created such wide-spread interest, were concluded on Tuesday evening the 7th instant at the Dewanji House, No. 3 Hidaram Banerji's Lane, Bowbazar, Calcutta, when Mr. N. R. Joshi, of Poona, defeated Mr. V. K. Khadi'kar of Sangli, last year's champion, by two games to nil, with two draws. Mr. Joshi's play has been consistent and brilliant throughout and his victory has been thoroughly well-deserved. Mr. Khadikar has had the hardest struggle of any, as from the very beginning he has had to play with very strong players and it is a wonder that his play slightly fell off in the last rounds. Mr. D. N. Mukherji, of Calcutta, steps into the third place, having beaten Mr. S. V. Bodas, of Singli who takes the fourth place. It is significant that none of the players who did conspicuously well at the recent League Tournament of the Club, could get any of the first four places; this shows clearly that the strain of two successive competitions was too much for them, unaccustomed as they are yet to such hard fights. The prizes were awarded on Sunday the 12th January, at a formal meeting, at which Major W. M. Bruce, I.A., Comptroller of Military Accounts, the President of the Tournament, presided.

CUTTINGS

Education in India, a Commission demanded.

Every one honestly desiring the emancipation of the Indian masses from the disabilities arising from ignorance and illiteracy will welcome the spirit of constructive sympathy in which Mr. Montagu approached the subject of primary education in his third Budget speech in the House of Commons. As he rightly indicated, the hopes and aims of the British Government and of sincere minded leaders of Indian public opinion are identical. The difference, however, is a difference of method and a pace. Let it be remembered that a needlessly slow programme can only be adopted at the cost of the security and welfare of a vast majority of the Indian people who are daily exposed to the ruinous practices of unscrupulous money lenders and to other evils naturally resulting from utter illiteracy, while their Finance Ministers and legislators are taking their own time over considering and completely solving the great problem.

Mr. Montagu justly pointed out that the subject is attended with serious difficulties. India may be congratulated upon having an Under-Secretary of State who does not discover in those difficulties an excuse for indifference but, like the author of "Modern Painters," finds in them "an incentive to greater activity." The difficulties should be faced in a high minded, statesmanlike spirit, for, England's mission in India does not rest upon pure expediency, but is broad based on the ideals of civilisation. A number of Commissions have been appointed during the last decade to consider various questions affecting India. Why, it may reasonably be asked, has no public commission been appointed to deal with this specific question, which yields to no other Indian problem in the extent and magnitude of its bearing upon the greatest good of the greatest number. No doubt Lord Curzon commended the question, along with other educational matters to the consideration of the Educational Conference held at Simla 1901. But the constitution of that body left much to be desired because, with the one exception of D. Miller, it was entirely composed of official heads, and did not include a single Indian representative. Sir, it is not too much to say that no action on the part of His Majesty's Government could possibly afford deeper satisfaction to Indian reformers than the appointment of a mixed Commission composed of official and non-official members, to institute a full and comprehensive inquiry into the whole subject of primary education in India. Such a Commission might consider, among numerous other questions, the possibility of giving light teaching work to petty village officials already employed in places where no schools are in existence and of compensating them for such additional service by the payment of a small extra allowance. The inquiry might also determine whether it would be advisable to follow the example of Germany,

and lay down the minimum number of children eligible for primary instruction whose presence in a centre of population should justify the opening of a new Elementary school.

Mr. Montagu observed how the educational problem in India differs essentially from one presented in a European country. He draws attention to the important facts that in India over 90 per cent. of the population live in villages, that there are over 600,000 villages with less than 1,000 inhabitants, and that these villages include more than half the total population. Every practical administrator will agree with his view that it would be enormously costly to establish schools in every one of these overwhelmingly numerous centres of population. May I take this opportunity of suggesting the establishment in each Indian province of a number of travelling teacherships for the benefit of such small villages. A peripatetic teacher could visit three or four villages in the course of a week, and give primary instruction once every seven days to the children in each village. Under this scheme the boys would be expected to attend their village class only once a week, perhaps at a late hour in the evening after the cattle have been driven home so as not to interfere with their out door work during the greater portion even of that day. Thus for at least six days in the week peasant boys would not be withdrawn, to use Mr. Montagu's phrase, from helping to look after the cattle. The principle underlying the masure would be that in area otherwise inaccessible to the influence of education it is better to give some instruction to the masses than to give no instruction at all. This was the principle on which the Sunday school movement was founded in England and we see it adopted in the case of numerous technical institutions in Germany at the present day. May I add that the labouring classes of Indian towns are largely drawn from the villages, and that their illiteracy would always hinder the progress and prosperity of rising Indian cities—Mr. P. C. Tarapore in *Westminister Gazette.*

Communal Universities in India.

The Affiliation Question

Indian advices show that there has been considerable disappointment, particularly on the part of some of Aligarh University men as to the reported decision of Government on the question of affiliation. They seem to have cherished the expectation that their "national" University would be given powers to affiliate Moslem institutions, in whatever part of India they might be situated, teaching up to a prescribed standard. They are prepared to see the power safe guarded by making its exercise subject to the approval of the ex-officio Chancellor, the Viceroy. They recognized that as the first great duty would be to make Aligarh itself worthy in every way of the distinction of which the founder, Sir Syed Ahmad Khan, dreamed, the day for linking distant Colleges to it must be far distant—that its light might not be seen for a generation to come. But some of their leaders state that they could not have collected the large aggregate sum now in hand unless the prospect of ultimate affiliation had been before them; and it is even suggested that in some instances a return of subscriptions may be demanded by disappointed contributors.

The restriction of the power of affiliation to local area only—for this is the decision of Government—is the result of adoption of a considered policy of general application. Impressed by the admitted deficiences of the system of higher education hitherto prevailing the Government of India are encouraging the development of teaching, and mainly residential Universities, instead of permitting any further extention of so-called "federal" or examining Universities. The first definite step announced in this direction was that of the establishment of a University at Dacca to relieve the pressure upon the University of Calcutta, with its 52 widely-scattered affiliated Colleges, having an aggregate roll of more than 13,000 students. In a letter to the Bengal Government last April respecting this scheme the Government of India pointed out that it has long been recognized that the federal type of University implanted in India, though convenient at the outset by reason of the paucity of institutions and their situation at long distances from one another, contains radical defects. Among these was cited the want of corporate life, the growth of external examinations, imperfect supervision, and the difficulty of fostering among students reverence for a central institution and loyalty to its ideals when that institution is remote and impersonal. "The Government of India," added the letter "consider the creation of new Universities an important factor in educational progress. It is eminently desirable that this should be, where possible, of the teaching and residential type, binding together the Colleges of a single town or a single circumscribed area."

All-Round Application

In accordance with this principle the creation of Universities at Poona, Nagpore, Rangoon and other centres is projected as circumstances permit; and from it the Secretary of State declines to depart in the special case of the communal Universities. Even Viceroys may err in the exercise of permissive powers; systematic and continued refusal would be resented, and in course of time future Chancellors might find it difficult to withstand pressure for the affiliation of institutions much below the standard of the communal Universities themselves. Aligarh owes its position in large measure to the great traditions inherited from Sir Syed Ahmad Khan, and the linking with it of inferior institutions might soon debase the hall-mark of Aligarh, which has stood for so much in the progress of Indian Moslem culture. The difficulties of supervision and inspection found so great in the case of the larger State Universities would be augmented in that of unofficial communal institutions offering to survey Colleges from Peshawar to Tuticorin and Bombay to Mandaly. Admittedly the question of affiliation is for the somewhat distant future rather than for to-day. The Bill to be passed by the Supreme Legislature will not be unalterable as the laws of the Medeans and Persians; and it is quite conceivable that a future generation of rulers will be prepared to consider the whole problem afresh when it becomes one of practical moment.—*"Times."*



DALY COLLEGE, INDORE.

The New Buildings of the Daly College, Indore were opened by His Excellency the Viceroy on the 8th November, 1912.
The pavilion and depot, the garden party held on the occasion.

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AND PROGRESS OF INDIA.

CALCUTTA, FRIDAY, JANUARY 31, 1913

Establishment of a University at Patna

WE are glad to note that His Honour the Lieutenant Governor of the New Province of Bihar and Orissa has in his speech in council the other day dwelt on the question of the establishmen of a University at Patna. His Honour said:—"The question of establishing a University at Patna with the fullest possible provision for teaching and residencies is under consideration and, as soon as possible, a strong Committee of which Mr. Nathan will be the President, will be appointed to enquire into and report on the whole scheme. I hope that by the beginning of July the Committee will be in a position to enter on their task. During the coming year the Committee will examine the future requirements of the Bihar School of Engineering and of arrangements necessary for education of women throughout the Province.

We always advocate the establishment of teaching and residential Universities and we are thankful to His Honour for the important announcement which he has made. What we want is a really first class thing in which real education (intellectual, moral and physical) would be imparted to all who would come under its guidance and coaching.

* * *

The Madras United College for women

THE desirability of establishing a United first Grade College for Indian women in Madras has for some time past been the subject of much consideration among the Christian Missionaries of Great Britain working in Madras.

At the suggestion of the Madras Council of the United Free Church Mission (which through its unrivalled college for men has been, with the help of a few other missions, engaged for over three quarters of a century in building up the nation of South India) a strong Committee consisting of 8 ladies and 7 gentlemen was appointed two years ago to strike out a plan, and we have now before us the result of the deliberations of this committee

as published in the current number of *The Harvest Field*. A perusal of it must convince any reader that the problem of Women's Higher education in India is not one which lends itself to an easy solution, as is generally fancied, and that it is very difficult even to experienced educationists to successfully grapple with some of the most perplexing material issues presented by the conditions of life in this country.

We most heartily welcome this attempt of missionaries to provide for women's University Education, the main reason of our appreciation is not so much the fact that we agree with all the points at issue but that it will serve as an eye-opener to our countrymen who are even up to now simply engaged in writing and commenting on the necessity of female education without doing any actual work towards the desired end. In this connection we cannot but express our heartfelt gratitude to the Honble. Mr. P. Ramanathan K. C., for the great example he has shown in establishing a College for Hindu girls at Jaffna. We hope our readers would do well to peruse with care the full report of the college which appears elsewhere in this issue.

Calcutta University(P) Sports

In the section "Sporting" our readers will find a Report of the Calcutta University Sports Meeting. It is said that the Meeting was a great success. Really it was so. But we are not sure whether it was a *University Sports Meeting*. We have not got the list of entries before us, but from the results we see that almost all the prizes have been taken away by *Non-University Students*. We are not against these sports as we are fully alive to the beneficent effects of such meetings. What we really object to is the name. Call it Inter Collegiate Sports and not University Sports. From the name at least it seems that these sports are meant for the students of the Affiliated Colleges; but, are the Military Students of the Medical College, the Apprentice Department Boys of the Sibpur College or the Students of the School Department of the St. Xavier's College (reading for Cambridge Locals) to be reckoned Calcutta University Students? The need for these University Sports was felt urgently on the ground that purely University Students had no sports of their own. Why then mix up other students with these; they have got several such organisations of their own, *e. g.* The Bengal Presidency Sports. Let there be a Sports Meeting for Calcutta University Students only and for that alone we think the Calcutta University and other Affiliated Colleges could contribute funds.

Need for a Hall for the Calcutta Presidency College

The question of a Hall for the Presidency College was taken up in the year 1910. The idea is that Old Presidency College Students should combine to make to their College the gift of a College Hall. During the recent visit of His Excellency the Governor on the occasion of the Opening of the New Laboratories the question was opened up again with renewed vigour by Principal James. The idea was readily taken up by His Excellency and His Excellency showed his approval in the most practical form by heading the list of donors with a subscription of Rs. 1500. We hope that old Presidency College Boys would now come forward and try to wipe off this reproach as soon as possible.

Education of the Domiciled Community

The Government of India have forwarded to the Local Governments the report of the Conference on the Education of the Domiciled Community. In the course of a letter Mr. Sharp writes at the outset "The Government of India desire to reiterate their adherence to the policy of reliance on private enterprise guided by inspection and aided by grants from public funds. They are impressed however, by the needs of the Domiciled Community and desire as part of the general programme of educational improvement in India that this community should receive a liberal measure of support, in supplement to increased efforts on its part to improve the education of its children. The first need relates to the bringing under education of those for whom no facilities are at present available. The need for the formation of local syndicates or standing consultative committees to give effect to the recommendations of the Conference is one to which much importance was attached by the Conference.

Education of the Depressed classes in the Punjab

In the Punjab, an increasing number of children of the Depressed Classes attend ordinary schools and there is less objection on the part of the higher caste to associate with them on equal terms. In the Delhi Division there are 21 lowcaste schools attended by 663 children; 23 of these schools are conducted by Christian missions. The pupils are mostly Chamars. For the education of the Minas, a criminal tribe, special grants continue to be made from provincial funds. The Arya Samaj in Hoshiarpur started three low-caste schools but only one survived. There are no low-caste schools in Rawalpindi, in Multan only 129 low-caste children are attending schools. The statistics of literacy in the last Punjab census report shows the

magnitude of the task of educating the low-caste population. "Four criminal tribes number 67,088 persons, of whom only 200 are classed as literate. Mochis number 1,564 literates out of a total of 417,230 persons; Mussalis 207 out of 309,530; Chuhras 1,290 out of 925,053; and Chamars 4,219 out of 1,106,589. Of these four castes, therefore, only 7,280 people can read and write out of a total of 27,58,402, and there is a large field of educational work among them."

Dr. Bose on Plant Autographs

UNDER the auspices of the Governor of Bengal and before a distinguished gathering consisting of high court judges and members of the Bengal Council, professors, barristers and vakils, Professor J. C. Bose gave a memorable address on his recent researches at the physical laboratory of the Presidency College on the evening of the 17th. instant, his subject being Plant Autographs. The lecturer described the apparatus he had invented by which invisible internal changes in plant life were made externally visible.

By that apparatus a plant under the compulsive forces of testing its stimulus was made to give an answering signal, which was automatically recorded into an intelligible script. He then compared human and plant sensitiveness and described the effect of food and drugs on plants. By means of another apparatus pulsating plants were made to record their rhythmic throbbings.

Before concluding, the lecturer dwelt on the fact that all the varied and complex responses of the animal have been foreshadowed in the plant. The phenomena of life in the plant are thus not so remote as have been hitherto supposed. The plant-world like the animal is athrill and athrob with a responsiveness to all stimuli which fall upon it. Thus, community throughout the great ocean of life in all its different forms outweighs apparent dissimilarity, and diversity is swallowed up in unity.

* * *

Captain Sewel's Lecture on Biological Research

A meeting was held in the rooms of the Asiatic Society of Bengal on Wednesday night the 22nd inst. under the presidency of Colonel Harris when Captain R. B. Seymour Sewell delivered an interesting lecture, illustrated with lantern slides, on recent biological work on the R. I. M. S. "Investigator." The speaker said that during the years 1872 to 1876 H. M. V. the "Challenger" was engaged in carrying out the various biological investigations. At that time the Asiatic Society of Bengal urged upon the Government the necessity of providing a scientific officer along with it. That view was strongly endorsed and subsequently the post of Surgeon Naturalist of the Marine Survey of India was created. This officer was not able to do much work in the beginning. He would deal with the investigations, that were carried out during the years 1910-11 and 1911-12 on the Burma Coast. The investigations, he said, could be divided into three parts, namely, shore collections, shallow-water collections, and deep sea collections. Dealing with shore collections he said that he had discovered a species of crabs—ocypada cerat ophthalma—which were peculiar in their habits. If they were disturbed they would run into the water and remain on the surface with their eyes above the water. Another kind of crab was also discovered, whose body was of a globular nature. The vast majority of them were male. Referring to the collections made in the sea the speaker said, that the water was teeming with all kinds of organisms, which were drifted along with the waves. He then explained the currents and with it the various stages of the development and peculiarities undergone by Copepoda. Various pictures were also thrown on the canvas, showing eggs of the fishes, young fishes etc. He then explained how by means of net investigations were carried on in the deep sea. In the deep sea, he said, he discovered 47 new species. Some of these were totally blind, while others had peculiar phosphoric light of their own. As regards the latter he was of opinion that they could go very deep but were not the inhabitants of the bed of the sea.

A History of Indian Civilisation

SOME TIME AGO we reviewed 'The Science of History and the Hope of mankind' (Longmans) from the pen of Prof. B. K. Sarkar M. A., In that treatise the professor dealt with one or two of the general principles which according to him underlie the course of Universal History. We understand the professor has been engaged in the preparation of a History of Indian Civilisation in which there will be a philosophic attempt to elucidate the working of the forces, both national and international as well as political and non-political that have moulded the character of the Indian people from the earliest times. The author will try to bring out into prominence the secular or non-religious, e. g., The economic, political, administrative and material aspects of Indian Civilisation and give due importance to the racial, ethnical and extra-Indian or foreign factors that have contributed to the growth and expansion of the culture of the people of India. The design of such a work is splendid, no doubt, and a work on these lines has become absolutely necessary in these days. But the execution seems to be too much for the diligence and ability of a single individual. Professor Sarkar, however, would not care so much about discovering new facts and evidences but confine his energy solely to

a study and *interpretation* of available materials from the Biological standpoint he has suggested in his *Science of History*. A comparison of notes, therefore, as he has been doing by tours, with men who have been working at the different departments of Indian history especially with those whose reputation is in the vernaculars would help a great way in forming correct notions about Indian civilisation in its manifold aspects. Several auxiliary works, also, he has undertaken as preparation for the monumental work. Of these *Studies in Sanskrit Literature* is intended to throw light on the literary achievements and Sociological conditions as depicted in the sanskrit classics. *Raj Tarangini* or the Annals of Kashmir by the poet historian Kalhan has been already rendered into Bengali. *Sukraniti* or Sukracharyya's system of Morals (Social, Economic and political) has been rendered into English with introduction and Nots for the *Sacred Books of Hindus Series* edited by Major B. D. Basu I. M. S. (Retired) and is being published in monthly instalments. And a contribution to the study of Hindu sociology is in the press under the name of A socio-religious *Institution of Bengal* based on materials supplied by Mr. Haridas Palit a painstaking research scholar in the field of folklore and Bengali manuscripts. Thus Professor Sarkar is trying to attack the problem from all sides and he has been receiving the co-operation of Professor R. K. Mookerji M. A. the author of *Indian Shipping* and several Pandits well up in Hindu and Buddhistic Literature and Philosophy. We wish this undertaking all success.

The Daly College Indore

WE are glad to present our readers as a frontispiece to this issue a photo of New Building of the Daly College Indore, which were opened by His Excellency the Viceroy on the 8th November 1912—a full description of which appeared in our November No. 1—vide page 92 of this volume.

THE UNIVERSITIES

Calcutta University.

Special Convocation, 25th January 1913

A CONVOCATION of the Senate of the Calcutta University was held at the large hall of the Senate House, College Square, on the afternoon of the 25th, when His Excellency Lord Carmichael, as Rector of the University, conferred the Honorary Degrees Doctor in the Faculties of Arts and Science, respectively upon Professor Hermann Oldenberg and Dr. Andrew Russell Forsyth. Sir Taraknath Palit, who was to have received the Honorary Degree of Doctor of Law, was unfortunately too ill to attend. There was a very large attendance of Fellows of the University and leading residents of the city European and Indian, including a number of ladies belonging to both communities.

His Excellency, who was accompanied by Lady Carmichael and staff, arrived at 2-55 and was received at the stairs by the Vice-Chancellor, the Registrar, and the Fellows who had arrived earlier and robed. A procession was formed and with the Registrar, the Vice-Chancellor and the Rector leading, proceeded to the *dais*.

His Excellency the Rector declared the Convocation open, and called upon the Hon. the Vice-Chancellor to address the Convocation.

Vice-Chancellor's address.

The Vice-Chancellor in the course of his speech dwelt on the many qualities of the candidates for the Honorary Degrees and concluded with the remarks:

The time manifestly is ripe for display of private munificence on an extensive scale, and to our great good fortune there is amongst us, at any rate, one man who fully understands the signs of the time. At the termination of a long and laborious professional career, and at a time of life when the responsibilities of a man are apt to press themselves on him with quite a peculiar force, Mr. Taraknath Palit—Sir Taraknath Palit as to our joy we are now able to call him—has taken counsel with himself and arrived at the conclusion that the very considerable wealth which had come to him as the legitimate reward of long-continued strenuous work, could not be put to any better use than the promotion of scientific knowledge and research in the University with which he is himself connected by early ties. Once this conclusion had been reached, he decided to give us, with more than princely liberality, not a fraction or part only of his wealth—he has freely given us the whole. We cannot be sufficiently grateful to him for assistance so highly opportune and generous. We just now are endeavouring to create teaching faculties; we clearly recognise our needs and think we understand what steps have to be taken to meet them; our only difficulty, the gravity of which cannot indeed be exaggerated, is the want of adequate funds. Now this magnificent gift of Sir Taraknath Palit at once enables us to create two further University Chairs—one for Chemistry, the other for Physical Science—and if we add to this the Chair for Higher Mathematics for which Government have consented to provide funds and which we have been allowed to associate with the name of our beloved Chancellor, Lord Hardinge, we have at any rate the beginnings—beginnings more than rudimentary—of a true faculty of science. This beginning, indeed, requires to be followed up, and the succeeding steps may be harder to take than the first one. But we shall not lose courage, and the splendid initiative taken by Sir Taraknath Palit inspires us with the confidence that the spirit which prompts men to make great sacrifices for noble causes is not dead amongst us and that our wealthy men do

not altogether fail to recognise what paramount claims to unstinted assistance learning and research have in any progressive community

The degree

At the conclusion of his address the Vice-Chancellor presented to his Excellency the Rector Professor Herman Oldenberg, to whom Lord Carmichael handed the diploma of the degree, repeating the usual formula admitting him to the degree of Doctor of Literature. The Vice-Chancellor next presented Dr. Andrew Russell Forsyth for the honorary degree of Doctor of Science, and His Excellency conferred the diploma in the usual form.

The Rector's Address.

His Excellency the Rector then addressed the Convocation. His Excellency said,

Mr. Vice-Chancellor, members of the Senate, and gentlemen,—It is my duty and my privilege to preside at this meeting and to addresss a few words to you now. I am proud to be Rector of Calcutta University. I greatly value the privilege, but I feel that to-day it is rather a sad duty which I have to discharge, for it is only in the absence of the Chancellor that the Rector is called on to preside. We must, I think, have often turned our thoughts towards His Excellency the Chancellor since we entered this hall. Our sympathy goes out to him, and to Lady Hardinghe all the more because of their interest in the Calcutta University and their care for it, which are so well known to us, and which we so thoroughly appreciate. We were struck with horror when we heard, little more than a month ago, of that cruel and cowardly act at Delhi which has caused us so much sorrow and given us so much food for thought At first we scarcely understood how near that act came to having even graver consequences than it had. We have not yet grasped its full meaning. I do not know that we shall ever quite realise the pain which it has caused to the Chancellor, nor how much we ought to admire the courage which he and Lady Hardinge showed. There is nothing which we desire more than his restoration to health, and nowhere will there be greater rejoicing at his complete recovery than among the members of this Convocation.

My Private Secretary received a telegram last night from Sir James DuBoulay, the Viceroy's Private Secretary, which you may like me to read:—

"As His Excellency the Rector has to preside at the Convocation to morrow, he may like to inform the Senate of the Chancellor's health. The Viceroy's wounds were deep and severe and, though the process of healing has been and continues to be satisfactory it has been attended by neuritis and great discomfort and considerable pain, and the wounds can hardly be expected to be healed over until about the middle of next month Meantime the doctors have prohibited him from doing any public business, and, though they have made an exception in allowing him to attend for a short time on the special occasion of the opening of his new Legislative Conncil, it is not likely that His Excellency will be allowed to resume his ordinary attention to public affairs for some time to come."

You all know that the Viceroy before leaving Calcutta expressed his intention of being at your meeting in March. He spoke to me about it at Simla last September, and I know how eagerly he has been looking forward to it. We hope he may be able to carry out his intention, but, if he is not, we know it will be through no wish of his own and that the Chancellor's disappointment will be as keen and as genuine as that of any student or graduate.

THE RECIPIENTS OF DEGREES.

I was very glad to admit the distinguished man whom your Vice-Chancellor presented to me to those honorary degrees which their eminent position and attainments render them so well fitted to receive. I have been glad to take part in a ceremony which shows that the Calcutta University is a true University, not bounded in its recognition of work by any narrow limits of country or of continent. I listened to what was said about Dr. Oldenberg, I think it is peculiarly meet, and right that the leading University of the East should recognise one—who stands out among the University students of Europe not merely as a most eminent scholar learned in the ancient languages and philosophy of India, but as one who has helped the West to understand the ideas which have shaped the history of the East, and to increase that sympathy which alone can bring the two together.

Dr. Andrew Russell Forsyth on whom I have conferred the honoray degree of Science is as Sir Ashutosh has told us, one of the greatest of modern mathematicians. By original and patient work he has won the recognition of those whose recognition, is most worth having. The Royal Society have awarded him a distinction as honourable as any which England can confer. He is an Honorary Doctor of Science of the Universities of Oxford, Dublin, Manchester and Liverpool, Honorary Doctor of Law of the Universities of Glasgow and Aberdeen, and Honorary Doctor of Mathematics of the University of Christiana. We rejoice that we can now welcome him as an Honorary Doctor of Science of the University of Calcutta.

SIR TARAKNATH PALIT.

Gentlemen, I feel proud to have been in any way associated in doing honour to Sir Taraknath Palit. I only wish he could have been here to receive from me in person the degree which the University is prepared to confer on him. Sir Taraknath Palit is a man very learned in law. I cannot tell you what his attainments in that field are; they are known to you, Mr. Vice-Chancellor, and they are known to many of those present. I am content to take them on trust, though I respect them none the less. What I do know is that Sir Taraknath Palit is a man of independent mind, who has never hesitated to do or to say what he thought right, and by his gifts to the Calcutta University he is marked out and looked at from any point of view as one of the greatest benefactors of higher education in this part of the empire. His generosity may recall to us—I am glad to say it—the generosity of many others. Generosity towards education will, I hope, never be rated, and its true worth ought not to be judged by the money value which gives it a concrete form. But Sir Taraknath Palit has given not of his superfluities, but all that he possessed; and he has done during his lifetime what he might well have left to be done after his death. He was recently honored by his University and again we rejoice not on Sir Taraknath's account alone, but for the University also, for we feel that by its action the Calcutta University has greatly honoured itself. I say no more, but in the name of every member

of the University of Calcutta I welcome you, Professor Herman Oldenberg, and you, Dr. Andrew Russell Forsyth. I congratulate you on the work which you have done and on the recognition which your work has received. I feel sure that you are pleased to find that while you are honoured here today, far away from your own homes, by men who are striving as the workers in your own Universities are striving, to add to the sum of human knowledge, you have been associated with a citizen of this city—Sir Taraknath Palit—whose unselfish example must appeal to all who love the cause of learning, whether in East or West.

His Excellency then declared the convocation closed. The procession was reformed and left the Hall in the same order in which it had entered.

After the Special Convocation, the Annual Senate Meeting was held. (The full report will appear in the next issue).

Punjab University

The Chancellor of the Punjab University is pleased to nominate the following gentlemen to be Fellows of the Punjab University.—

Fellows

Major J. Stephenson, I. M. S., Principal of the Government College, Lahore; Rai Sahib Lala Ruchi Ram Sahni, Professor, Government College, Lahore; the Rev. E. T. Lucas, Professor, Forman Christian College, Lahore; Shaikh Amir Ali, B. A., Additional district Judge, Lahore; Major R. Heard, I. M. S., Professor, Medical College, Lahore; Munshi Abdul Ghani, Professor, Islamia College, Lahore; Mr. Kanwar Sain, Barrister, Principal of the Law College, Lahore.

THE HINDU UNIVERSITY

THE total donations realised up to the 15th of January 1913 amounts to Rs, 17,52,562–10as–11p.

Funds

The important donations of the fortnight are: (1) Raja Srinath Roy, Ray Janaki Nath Ray Bahadur and Rai Sitanath Ray Bahadur of Bhagyakul—Rs. 15000, (2) Babu Dharumlal Agarwala—Rs 10,000 and (3) Babu Hirendra Nath Datta Rs. 5000.

The Hindu University deputation headed by the Maharaja of Darbhanga arrived at Allahabad on the 21st of January 1913. A meeting was held on the 22nd. to raise subscription for the fund and was very largely attended. The Hon. Mr. De La Fosse, Director of Public Instruction, was among those on the platform. Over three akhs of subscriptions were announced at the neeting, the principal donors being Pandit Sundar-al one lakh, and Lala Ramcharan Das Rs. 75,000.

he Deputation's Tour leeting at llahabad

DACCA UNIVERSITY

A CRITICISM

TO THE EDITOR "THE COLLEGIAN"

SIR, I thank you heartily for opening your columns for criticisms on the proposals of the "Dacca University Committee." When I first read the original report of the Committee, I had certain ideas, which I had been trying to put together and publish in an appropriate journal. Your offer, therefore, came to me, as a specially welcome one.

I do not pretend to be comprehensive in my criticism. Only a few points, which struck a hurried reading man, are noticed, and even in these, I do not entirely believe that I am exhaustive. I shall, however, be condensed in my statements, so as not to be taking undue advantage of your kind offer.

In Chapter III of the Report, I find one of the many Departments proposed by the Dacca University, is Islamic Studies. In comparison with other Departments, this one seems to me to be rather narrowly limited. Arts is a large branch; so is Science and all others; but I fear, Islamic studies is not so large as to be able to hold its own in the midst of the various Departments of a University. But, it may be said that the University desires to be more detailed and specialized. If that is so, then I don't find why Sanskritic Studies should not be one of its Departments. There is as much reason for the one as for the other. While Sanskrit Studies are included in the general department of Arts, Islamic Studies has a special and distinct existence of its own, of course, over and above its legitimate position in general Arts Department, in the shape of Persian, and Arabic. I do not, for a moment, doubt the importance of Islamic Studies as a special branch of a University, but at the same time, I cannot fail to notice the importance of Sanskritic Studies as well, which is no whit less than the Islamic Studies. Nor can I fail to notice the defective mode of teaching given by the Madrashas; and the Sanskritic Studies are not much better off. It is said, that the Government of India had for some time, before it, a detailed scheme for such a study. This, after mature deliberations on the part of the members of the Committee has given rise to this proposal. The Committee also goes to the length of even recommending for degrees in Islamic studies (*e.g.*, B. I.; M. I.; etc.) This is, to my mind, carrying things too far. The Committee could have, with as much justification, recommended for Bachelorships in Geography and Masterships in Trigonometry—B. G.; and M. T. I therefore venture to suggest, that Islamic studies should not form one of the Departments of the

Islamic Studies

University. It may very well be maintained in the general Arts Department, and its removal from the list of the Departments need not take anything away from its importance, as the importance of Psychology is not modified by its being only a small branch of the large Department of Arts. It is clearly hinted, however, that the Moslem interest will be specially looked after in the proposed teaching and Residential University, a subject which I will take up later on.

Students who fail

The treatment suggested for the "students who fail", in Chapter IX, of the Report, is, on the whole far from satisfactory. First of all, it is prososed that four principles should govern the question; the first of these principles is—"In so far as possible, students who are not altogether idle or stupid should be given a chance of redeeming their failure." Now how is it possible to know whether a student is or not "altogether idle or stupid." We can never know whether he is idle or not; while the word "stupid" is more or less a vague term. If a student is really "stupid", it is better he does not enter university at all, because he can do nothing there, as his progress, is hampered by his lack of intelligence, But "stupid", as used in common parlance is only a relative term. So it is difficult to find out, who is "altogether stupid." "In conformity with the above principles", says the Report, "a student failing at the intermediate examination, but not regarded as hopeless may be readmitted for an extra year's course." Now, what would be thought the correct standard of "hopelessness". I do not believe that anybody can set up one, like this, what would be the criterion on which the authorities would judge whether a student is hopeless or not? "An honours candidate", goes the Report, "who fails altogether may be re-examined after a further year's study of his honours subject, but if successful will receive only a pass degree. A candidate who fails at the M. A. or M. Sc. examination may similarly be re-examined, but should not be eligible for more than a third class."

Now this is, I am afraid, what may be called a real hardship. A student may fail for more causes than one, but the proposal, if carried out, will doom him for ever, whatever may be the cause of his failure. The members are apparently moved by a just motive of not giving one who has worked for the same thing for three years, the same credit, as they would be prepared to give to one who has devoted only two years on it. It is only just, that distinctions should be made between the two classes. But such a fundamental distinction made between them would only be discouraging to the young striver. An illustration will make me clear. X works for two years for the B. A. degree in Honours. In the midst of his examination, he suddenly falls ill, or is impeded by an accident, the result being he fails altogether. He tries for the next year's examination; he safely goes through it and comes out with good marks, enough for a "first class"; but he is to be impounded in the "pass" list. The very prospect of a mere "pass" would damp his spirits, and would take away half his energies for work, for "pass" degrees are not, after all, held in much esteem. So, a youngman's prospect is likely to be ruined by this part of the regulation, without any fault on his part.

The University of Calcutta, if I am informed correctly, makes distinction between the two classes of "regular" students and "plucked" candidates, but not this kind of distinction. They do not grudge the "plucked" candidate his honour in B.A., or his first class in M. A. If he acquires it, let it be his, by all means. But the medals, prizes, or scholarships attached to his place, he must not expect to have; these are given to the next best, who is a "regular" student. I think, Dacca will do better to take counsel of Calcutta, in this matter.

Entrance qualification

I would rather think with the committee with regard to the Entrance qualifications, and would not like to multiply formalities. The same matriculation would, to my mind, do for both Calcutta and Dacca, supplemented in the case of Dacca, by a scholarship examination.

English

There is one thing, which I would rather be rigidly kept up just as it has been advised by the committee. This is the curriculum of English. The committee have done well to draw a line between the language and the literature; and between the different periods of the literature. The study, in such circumstances, will be a highly specialized one, as it ought to be.

Staff

With regard to staff, I think, there is no meaning in the statement that the University should be manned by an adequate number of European professors. I would rather have it that there should be an adequate number of efficient professors, whether Indian or European. At the same time, I am afraid, to have efficiency, one must go to Europe. But the infant University would strongly resent importation of Europeans of the types, not rare in the Indian Educational service. They should be, as it is urged, of continental fame.

College for well-to-do classes.

A college for well-to-do classes will, I hope, add to the usefulness of the University, by stimulating desire for learning among well-to-do classes. Moreover, it would not affect anybody, as it may very well be self-supporting.

A. N. Ghosh.

THE COLLEGES
AND SCHOOLS

Opening of the New Laboratories Calcutta Presidency College, January 20, 1913.

THE New Laboratories of the Presidency College were opened by His Excellency the Governor of Bengal on Monday the 20th instant at 11 A. M. The ceremony was held under a "Shamiana" in the quadrangle of the Hindu Hostel.

MR. JAMES' SPEECH :—

Mr H. R. James, Principal of the Presidency College in inviting the Governor to open the new laboratories, said :—Your Excellency, the Presidency College Improvement Scheme, of which the laboratories you are about to declare open are the first solid instalment, arose out of the recognition by Goverment of the obligation to raise the efficiency of Government Colleges in response to the higher standards, which found their sanction in the regulation framed to conform with the Universities Act of 1904. The first definite practical step towards the improvement of the Presidency College was taken in an informal conference of four persons ordered by Sir Andrew Fraser as Lieut-Governor, in May 1907. This was followed in July 1907 by a representative meeting at Belvedere, in which the scheme first sketched at the informal conference in the preceding May was developed and expanded into very nearly the scheme which has been finally matured by a special committee appointed for the purpose by Sir Edward Baker in July 1910. This committee completed its deliberations nearly last year and the whole scheme is now before Government.

Need of Expansion

It was settled from the first that new science laboratories were the greatest immediate need, and greatest of all the need of a new Physics laboratory. The need of Expansion and of new laboratories in particular had, however,been pointed out much earlier by Science Professors and by Principals of the College, and had been admitted by successive Directors of Public Instruction. Chemistry was fairly provided for—at least the northern wing of the college had been extended in accordance with plans made by Sir Alexander Pedlar, when Professor of Chemistry in the College, and the Chemical laboratory formed a compact block extending over the three-storeys of that wing. Physics on the other hand, waa scattered up and down the College in a manner which greatly embarassed the effiient management of the department of Physics as a whole. Geology and Physiology were housed not in laboratories designed for their special purposes, but in class rooms, adapted, so far as circumstances permitted to suit the requirements of Science teaching. For these reasons the decision from the first was to give priority to the construction of new Physics laboratory and to follow this up by the construction of new laboratories for Physiology and Geology, and in addition for Botany also.

The Laboratories

The original plan was for two buildings a separate building for Physics and another for Physiology. Botany and Geology; and it was planned also to place residential flats above these two buildings. This plan was modified by the Committee of 1910 to the building which your Excellency will open to-day, which contains all the new laboratories in an extensive block, consisting of a central portion which has three storeys and two wings, eastern and western, which are two-storeyed. The Physics laboratory occupies two storeys of the central portion and the whole of the eastern wing. Physiology is placed on the third storey of the central block, Botany and Geology share the western wing, Botany taking the upper and Geology the lower floor. One large room on the upper floor of this wing has been made into a library into which all the Science books of the College Library have recently been removed.

I do not attempt any technical description of our new laboratories, as this is scarcely appropriate to the occasion, I may say, however, that they are on an ample scale and have been planned and equipped in accordance with the best expert knowledge accessible—the volume of which is large—and that the planning has been the work of our Professors. We have been fortunate in coming late in the day, so that we have been able to profit by the accumulated labours of the world's most practical thinkers—which is Science. I should not fail to mention that we are under special obligation in this particular to Professor Peake, who was in charge of Physics during Dr. Bose's absence in 1907-08, and who designed the first plans of the Physics laboratory. Professor Peake, has also as a member of the Governing Body, had a general supervision of the whole work up to the long vacation of 1912, when the western wing was being finished. The idea of massing the laboratories in one continuous block was also his suggestion. We have been very fortunate in our architect. I am sure all in the college would agree with me that in this regard we could not have been more fortunate. Our debt to Mr. Crouch is very great. His keenness has equalled that of the members of our own staff and he has helped us with the utmost zeal, unfailing courtesy and high ideals of his art. The problem of laboratories for an architect is a singularly difficult one. The Greeks had Nine Muses, but none of them represents the modern god Utility. Now in building a Science laboratory regard must be had, I will not say to base utility, but to the high and strict demands of scientific necessity. There is, therefore, unavoidably a certain conflict of aims and it is the architect's problem to find a reconcillation. Your Excellency and our other guests may judge to-day how far—after all due concessions to scientific requirements—Mr. Crouch has succeeded. We have been fortunate again in the Public Works Department-officials of all ranks who have done our work for us. I desire on behalf of the College to acknowledge our debt to them also and in pa-ticular to the Hon. Mr. Finnimore and to Mr. Cowley. Your Excellency, the building of these laboratories is the result of many minds and many labourers. The College and the community which benefit by their labours are I believe not unmindful or ungrateful.

Presidency College Improvement

The Presidency College Improvement Scheme does not stop at the provision of new laboratories. In its full extent it includes the taking up of twenty bighas of land stretching from the former western boundary of the College compound almost to Halliday Street. An open quadrangle is to afford a playing field for football, hockey, and perhaps also cricket. On the north, south and west of this quadrangle there are to be new buildings, each serving to realise some part of the ideal of a complete College. On the southern side are the new laboratories already built and to be opened to-day. At the western end is to be a new hostel, two (perhaps three) storeys high, which will nearly double the number of resident students. On the north are to be a College hall, a Principal's house and flats for resident members of the staff. There will be a gymnasium in the south-west angle between the hostels and the laboratories. Tennis courts and perhaps five courts will be laid out where space offers opportunity.

The low range of stables, bounding the old compound in the west, above which an observatory has been built for Astronomy, will be removed ; so that when all is finished a view of the whole group of buildings will be obtained from

the main road College Street. When all is done, the area occupied by the Presidency College will have been doubled and its external organisation will have been transformed. It will have far more of the positive elements of the residential College than now.

The College thus expanded will still be conditioned by its position in the centre of Calcutta and can never be fully residential. It will, however, be largely, so much

Question of Removal

was advocated by many (and still by us the only satisfactory course. It was considered in 1907 by Sir Andrew Fraser's commitee, and ultimately put aside on the ground that educated opinion in Calcutta was strongly against the removal of the Presidency College from its central position and its close association with this part of Calcutta. The alternative was again weighed by Sir Edward Baker in 1908 and with characteristic decision Sir Edward clinched the matter by directing that plans and estimates for these laboratories should at once go forward. The result is the splendid block of labpratories to be opened to-day. It is clear that but for Sir Edward s firmness the question would have been further debated and action delayed. Whether the decision was on the whole right or wrong permits of difference of opinion. At any rate, these laboratories, with which the College is to-day endowed, and on the full use of which we are entering, would not have been here to-day without Sir Edward Baker's genius for action and impatience of protracted discussion; and therefore with Your Excellency's concurrence we propose that this building should henceforth be known as the Sir Edward Baker Laboratories.

The College that is to be here on the ground where it was first placed, where it is familiarly known, where personal associations innumerable have grown round it linking it both with University life in Calcutta and with so many distinguished Bengalis of past generation, so many of the leading men of the day, will be something grander and more imposing to the eye than it ever was before. The view from College Street will be extensive and striking. You will look across gardens and playing fields to large and handsome buildings and see there according to the time of day and year, something of the charm of academic repose, or the ordered activities of College life. You will see the material presentment of a great place of education. But we do not lose sight of the important truth that buildings do not make a College, not libraries and laboratories of themselves advance education. It is its students that make a College great, what they learn and what they become in it; what they are able to do as a result of its teaching. We have not lost sight of this truth while our laboratories were building. We have endeavoured to make our education alive and real. The internal organisation of College life has been developed. We have a College Council which consists wholly of members of the teaching staff and we have been placed by Government under a Governing Body on which the staff is strongly represented. We have seminars to encourage higher study in English, Philosophy, History, Political Philosophy and Economics; societies to promote active interest in physical, chemical, physiological and geological studies. Also we have working and fairly efficient system of tutorial assistance in English. This hostel (in which there are 260 boarders) is organised in wards under Wardens and Prefects, the latter being senior boarders, the former members of the teaching staff. Some of these activities are not so full or so energetic as we could wish, but the College has a constitution with parts vitally connected as in living organism. It has corporate life. Our hope is that with this organisation and with these new material advantages in laboratories and other buildings that life will grow yearly more vigorous and the College become what its well-wishers desire, what it aspires to be a pattern of true collegiate life and education in Calcutta.

The College that is to be

There is one material factor which will contribute, I believe, more than anything else to this the possession of a College Hall Your Excellency, we regret not having been able to receive you to-day in a hall suitable for this ceremony and large enough to receive our full numbers and our invited guests. Instead of this we have had to use the makeshift of this shamiana. This is but one of the very many instances in which during the last five years we have felt the need of a college hall and have known the bafflement of the want of it. Smaller and less well-known colleges have their halls of assembly. Presidency College, Calcutta to this day has none. We want it for assemblies of the whole college such as this. We want it also as the central embodiment of the unity of the college, as a monument of our past and a place of memorial for our distinguished alumni.

The College Hall

For we have traditions and a history and your Excellency's presence here to-day is partly to give recognition to them and to institute their due commemeration for the time to come. The name, Presidency College goes back to the year 1855, the year in which the College became a Government institution. But the Presidency College of 1855 was merely the older Hindu College transferred from its former Board of Control and taken over by Government. The staff was the same and the students were the same; at the start the very buildings were the same. The new Presidency College continued under a new name and under the new control of the Hindu College or Vidyalaya. This at once carries back our beginning from 1855 to 1817, so that in 4 years time this College may celebrate its centenary.

In virtue of this identity with the older Hindu College Presidency College is associated with the very first beginnings of modern education in Bengal. It was a great and memorable day, I venture to assert, when on January the 20th 1817, the new Hindu College was opened. There had been practically no "English education" in Calcutta (or anywhere else in India) before that. The Hindu College was founded to instruct the sons of Hindus in the European and Asiatic languages and sciences, a new departure of momentous significance. And who were the founders. This we know and can call back into remembrance There was the Raja of Burdwan, there was Chunder Kumar Tagore there was Raja Baidyanath Ray, there were Gopi Mohan Deb, Joykissen Singh and Ganga Narain Das, whose enlightened enterprise and liberality provided the funds. There was Sir Edwards Hyde East, Chief Justice, and Bishop Middleton, founder of Bishop's College, whose official position and friendly interest were a great support. There was David Hare, whose memory will not die whose disinterested benevolence and noble care for education are held in reverence in Calcutta. Above all there was Raja Ram Mohan Roy, first and greatest of Hindus of the new enlightenment.

Modern Education in Bengal

Your Excellency will release me from any attempt to assign more particularly the parts played by the founders of the Hindu College, or, to follow the varying fortunes of the College from 1817 to 1855. The Hindu College did its work. It had famous teachers and famous scholars. Its numbers rose to over 500. Simi-

lar institutions were established in other places and the great movement for modern education ran its course. It has expanded not into the Presidency College of to-day nor even the Presidency College completed in accordance with the Improvement Scheme ten years hence but into hundreds of schools and colleges throughout the length and breadth of Hindustan, into the Universities that have been founded, and that shall be founded in India. But while that is true it is true also that we here at Presidency College are linked by succession to the first teachers and students of the Hindu College and that their history is ours. Therefore, with Your Excellency's goodwill, we commemorate this day along with the opening of those laboratories, the opening of the Maha Vidyalaya in 1817 and its founders who are also our founders and benefactors. We decree that this day shall ever be kept in remembrance for the lasting commemoration of the good work then begun. We honour our founders. We thank God for the blessing of education and knowledge restored to this land by their efforts. We pray that through the means offered them in this and other like places of education, the children of this land may go on from strength to strength in learning, in research, in culture, in virtue, and in the happiness founded upon these.

THE HONBLE. DR DEVA PRASAD SARVADHIKARI in an eloquent speech reviewed the history of the College from its foundation. He deplored the fact that the college had no meeting hall and trusted that the defect would soon be remedied and hoped that when the College hall was built, His Excellency would allow it to be named 'the Carmichael Hall'.

LORD CARMICHAEL'S SPEECH :—

His Excellency in reply said :—

Mr. James and Gentlemen,—I thank you for having asked me to preside at this meeting. I hope that during my term of office here I may come into close personal contact with all the chief Educational Institutions in Bengal, and I am glad that you have given me this opportunity of associating myself with you on the first commemoration day of your Presidency College.

I listened with much interest to the history which Mr. James gave us of this institution - a history of which you may well be proud and I listened with very great pleasure to the eloquent address of my Hon. friend Dr. Deba Prosad Sarvadhikari—an address which breathed the true spirit of the scholar who loves his "alma mater."

Gentlemen, you have great traditions. Your College was the pioneer of English education in India, it counts amongst its alumni many of the great men of Bengal and of India and I have no doubt it had a large share in making them what they were. I will not attempt to follow Dr. Sarvadhikari in an enumeration of their names or in appreciation of the value of their work. That, Gentlemen, is known to him and to you far better than it is to me; but while Dr. Sarvadhikari spoke I felt stirred by his enthusiasm—how much more must you have been stirred who yourselves participate in these great traditions.

The development of education in Bengal has been the joint work of Government and the people, the outcome of co-operation and sympathy; and of this co-operation and sympathy, the Presidency College is the greatest example. If the education of the youth of any country is to be sound education, there must be hearty co-operation and sympathy between the people and their Government. The interests of both people and Government in education and their reasons for spending national funds on it are one and the same—both wish to create good citizens. Mr. James has pointed out to us that the liberality of Government in connection with the present Institution goes back to the old days of the Hindu College and that the imposing building which I am to have the pleasure of opening formally to-day is but the latest example of Government's interest in the Presidency College Gentlemen so long as I am responsible for the Government of the Province, and I hope for long after that—this policy of liberality will be continuously and consistently maintained.

The improvement Scheme.

The improvement Scheme has not yet come before me officially. Mr. James has drawn a glowing picture of the Institution which he hopes to see established in the near future and I am glad that I may hope to have some share in carrying out the plans in which two distinguished Lieutenant-Governors of Bengal took so much interest and which have been so carefully thought out by a Committee on which the old alumni of the College were well represented. The Sciences Block gives us some idea of the dignity of the proposed scheme of improvement and I agree with you in thinking that the name of Sir Edward Baker ought to be associated with it.

It was fitting that you should have begun the improvement in the College by providing greater facilities for teaching science. I am glad you did so not only because science laboratories (as Mr James has just told us) are your greatest immediate need but for another special reason. Good scientific work benefits not only the place where it is done but the whole world. Perhaps at present nothing is so quickly appreciated all over the world—and work has been done here which is appreciated far beyond the boundaries of India. By building these laboratories, you have shown that you recognise the value of the work done by my friends, Dr. J. C. Bose and Dr. P. C. Roy and that you recognise it in the way in which all truly scientific men would soonest see their work recognised by furnishing these distinguished men with better facilities to carry on their researches and adequate means to teach others. Gentlemen, we ought to be grateful to Professor Peake.

The College Hall

With the idea of a Commemoration Day I quite sympathise and I hope that this will be henceforth an annual function. I heartily endorse all Dr. Sarvadhikari said about the value of old associations. Dr. Sarvadhikari has translated his feelings, and I am sure they are the feelings of all of you, into a concrete proposal in a most admirable manner. I can imagine no more appropriate gift from the old students to their "Alma mater" than a College hall; I hope that the scheme will be enthusiastically taken up by all students past and present and that—as the present function has been associated with the opening of the new Science block,—so the function will be associated with the laying of the foundation-stone of the New College Hall. I am not an old Presidency College boy, but since you have been kind enough to invite me to preside at the inauguration perhaps you will mind my also translating my sympathy into a concrete form but will let me join with you in contributing towards building the hall. If I may, I shall be glad to give Rs. 1,500 for this purpose.

I hope that to-day is but the first of many happy meetings; and that these meetings will strengthen the bond between the students past and present; that they will inspire you to do good work yourselves and to have respect for those who are honestly trying to do work; whether by enlarging the sum of human knowledge or in applying that knoweldge to alleviate suffering or increase the comfort of your fellow men.

His Excellency, followed by the staff and invited guests in procession, then went on to the new laboratory building and then declared the building open. After inspecting the new building is Excellency left.

St. Xavier's College Cal.

The Rev. Father Crohan, S. J., Rector of St. Joseph's College, North Point, Darjeeling has been appointed Rector of St. Xavier's College, Calcutta, in succession to Father O'Neill.

Ananda Mohan College Mymensingh

The Government of Bengal has sanctioned the raising of the status of Ananda Mohan College, Mymensingh, and promised a donation of Rs. 5,000 and monthly contribution of Rs. 600 over and above its present contribution. An additional sum of Rs. 50,000 will be required and will have to be raised from the public. The B. A. and I Sc. classes will be opened as soon as the latter sum is raised. The B. Sc. classes too will be opened some time later.

Opening of the Ramanathan College, Jaffna

THE Hon. Mr. P. Ramanathan's College in Jaffna for Hindu girls was opened on Friday, the 17th of January, 1913, at 10 A. M.

It accomodates 200 boarders. Day scholars will also be admitted. The buildings are arranged round an open courtyard 150 feet square. A verandah skirts the square on all sides making a very pretty promenade within the College for the girls. It contains spacious dormitories and class rooms. The lavatory arrangements in the northern and southern wings are excellent. The dining rooms and kitchens are spacious. The ground consist of 25 acres situated in Uduvil—that is to say, in the centre of the Jaffna Peninsula,—about a mile from Chunnakam Railway Station. It is said to be one of the finest buildings in Ceylon.

THE aim of the College is to embody in practical form the ancient Indian system known as **Guru Kula Vasam**, wherein the privilege of residence and constant association with cultured teachers was deemed essential to the development of the moral, intellectual and spiritual qualities of the pupil. A similar system in the case of boys has been in vogue in the West for several centuries, but it was only about fifty years ago that it was extended for the benefit of girls with most satisfactory results in England and other Western countries. The time has come for giving to our girls of the present day the advantages of the **Guru Kula Vasa** system so as to make them thoroughly efficient and useful both at home and in society.

It is necessary that girls should begin to study at an early age right views of life and straight methods of action. In India we have a set of traditions which if studied properly will certainly conduce to the happiness of daily life and the proper solution of its problems. These principles are to be found in the **Jnana Sastras, Dharma Sastras, Puranas** and **Itihasas**, which respectively are the precepts of true life, the precepts of right conduct, ancient legends of God's mercies and national stories of famous dynasties intended to illustrate sound principles of political and social life, written by some of the most renowned sages of India.

THE course of instruction in the Ramanathan College aim at the natural development of the faculty and talents of the girls admitted therein. Our ancient system of education carefully provided against cramming and too much forcing of the mind and body, by combining knowledge with insight and organised amusement. In the case of little children the methods of study were similar to those adopted in Germany in recent times in the Kindergarden (childgarden) system, which claims to develop children like flower-plants in a garden. Italy has given us the **Montessori System** which is an advance on the **Kindergarten**. It will be on a combination of the ancient Tamil system with the Kindergarten and Montessori system that little children will be trained in mind and body. Children thus educated are sure to make rapid progress in their studies in the higher classes.

THE pupils admitted to the College are to be instructed both in Tamil and in English. In English the standard prescribed by the Director of Public Instruction in the Code and by the Universities of Madras, Cambridge and London will be followed? and in Tamil, in addition to these standards, lessons will be given in Tamil literature and Saiva Religion. Every effort will be made to create in the pupils an intelligent devotion to God, loyalty to the King, and public spirit, to foster national ideals, and to promote the harmonious development of mind and body.

THE selection and appointment of all teachers and other officers and the general administration of

the College are carried on personally by Mr. and Mrs. P. Ramanathan.

THE Lady Principal selected for this College is Mrs. Florence Farr Emery, the youngest daughter of the late Dr. William Farr, C. B. F. R S., D.C. L., Corresponding Member of the Institute of France. He was for many years Head of the Statistical Department of the London Registrar-General's Office. Mrs. Emery was educated first at the Ladies' College, Cheltenham, and later at Queen's College, London, and passed the Higher Cambridge Local Examination prescribed for women over 21 years of age, gaining First Class Honours in English Language and Literature. SHE is well acquainted with modern conditions of life in the West. She has studied and discussed social problems with many a leader of Modern thought. She has written on the social position of women and is well known in London as an advanced thinker. She has taken a prominent part in the many attempts that have been made in England to make the drama a means of education for men and women. SHE has lectured on English Literature in the principal Colleges of the United Kingdom and in the United States of America and Canada. In January 1911 she was especially engaged by the Classical Association—consisting of University Professors and Headmasters of public Schools—to recite passages from Latin poets before them at the General Meeting held that year at Liverpool University. At the same time she is deeply imbued with love for the wisdom contained in the great religions of the world. She entertains the highest regard for the Vedas and Agamas of India, and has devoted much of the her time and attention to the study of the works of the sages of India.

The Lady Principal

THE INFANT COURSE OF INSTRUCTION includes the elements of reading, writing and number work; observation of colours, forms, sounds, textures and quantities, occupations for developing the faculties of thought, speech and action by such methods as recitation, drawing, painting, arrangement of seeds and shells according to pattern, etc.; and physical drill.

THE ORDINARY COURSE OF INSTRUCTION includes Tamil:—Reading, Writing, Grammar and Composition. English; Reading, Writing, Grammar and Composition. Arithmetic, History and Geography up to the requirements of the 6th Standard of the Code; and Household Management, including Needle-work, Hindu Cookery, Hygiene and Family Medicine. Physical Training

THE HIGHER COURSE OF INSTRUCTION includes all subjects required for the 7th and 8th Standards of the Code; the Cambridge Local Examinations, Junior and Senior, the Matriculation, Intermediate and B.A. Examinations of the Madras and London Universities.

In these three courses of instruction particular attention will be paid to impart to the students, by a graduated series af lessons, the principles of the Saiva faith and all the ideals and practices necessary for the maintenance of the national life of the Tamils. Every endeavour will be made to revive interest in Tamil Literature, Music and other fine arts.

REVD. AND MRS. WILKES were "At Home" to the Old Boys of the Central College who came down from Colombo for their holidays. Messrs. L. P. Spencer and S. A. Edward represented the Masters of their respective institutions. Mr. J. V. Dharmaraja contributed to the merriment by a few conjuring tricks and Mr. L. P. Spencer in a brief speech thanked Mr. and Mrs. Wilkes. Mr. Wilkes suitably responded and urged the necessity of co-operation and sympathy in all movements connected with the College.

Central College Jaffna

THE MAHARANI OF BURDWAN GIRLS, HIGH School of Lahore has issued its second annual Report for the year ending June 30, 1912. The school was started by the Punjab Hindu Sabha on June 5, 1910, through the munificence of the Maharajadhiraj Bahadur of Burdwan, the chief object being 'to train and educate Hindu girls in their duties as daughters, wives, sisters and mothers of the best Hindu type, and to impart to them that knowledge which will enable them to discharge their house-hold functions properly.' The school is maintained mainly by an yearly donation from the Burdwan Raj, and is situated in well-ventilated house in a healthy locality. The course of instruction consist among others of sewing and knitting cooking, music, household duties, bringing up of children and drill and other light physical exercises. No fees were charged from the students during the year. The number of scholars was 267 as against 189 in the year before. There was besides, a 'special class for grown-up girls to whom special education was given to suit their requirements.' The staff consisted during the year of 9 teachers as against 7 during the previous year. It is to be observed that except in the special classes, the age of girls at the school does not exceed 15 years. A pamphlet entiled *Ramayan Sikhamala* containing a series of lectures delivered by Srimati Chandrain Devi, a student of the school, has been forwarded to us and it is graifying to observe the thorough grasp of the subject, the lucidity of expression and the simplicity of style of the young girl. The school has reason to be proud of such students.

Maharani of Burdwan's Girls' High School Lahore

Sir James Meston at the Central Hindu College, Benares

His Honour Sir James Meston, the Lieutenant Governor of the United Provinces visited the Central Hindu College Benares on the 17th January 1913. He was met at the entrance by the trustees and a body guard of the students.

The trustees presented an address in which they spoke of the growth of the college in the last 12 years and the ideals they aimed at.

Sir James Meston in an admirable speech, which will evoke increased esteem for him personally in all who read it, replied to the address. Sir James's references to Kashi, to ancient education and the great educational effort centred in the Hindu College leave nothing to be desired. They cannot fail to touch a responsive chord in the minds and hearts of educated India. His Honor is a great believer in education and is not impatient of its results It naturally provokes enquiry, and reason is demanded for authority. He does not condemn whole some unrest which is a condition precedent of progress, and he recognises that there are economical, and other causes of unrest which is not wholly accounted for by western education. He is for progress and sympathises with the grand ideal of educated India as lofty and legitimate and deserving of esteem. Sir James Meston's utterance at the Central Hindu College is a wholly unexceptionable one. Hindus will be particularly grateful to His Honour for speaking so cordially of an institution which was unnecessarily and unjustly by misunderstood not long ago.

Anglo Bengali School Allahabad

At the annual prize day of the Anglo-Bengali School, Allahahabad, Sir James Meston in the course of his speech addressing the parents, said; "My stay in Bengal afforded me facilities of making good friends among the Bengali community, and I am particularly glad to see here some of their relations and some others whose acquaintance I made before. In the Bengali community I have found a very great deal indeed to appreciate and admire. One knows the great literary part of the Bengali language. One knows the great writers, jurists, poets, musicians and artists which the Bengali race has produced. One also knows that in recent years there have been several unhappy incidents in Bengal. One knows some of your younger bloods in their quest for liberty have run away with their commonsense on roads which led them to places of disgrace, where there is no liberty. Now, gentlemen, you have here a clear atmosphere and no unfortunate traditions. You have here an excellent school and I would ask you to make the most of it. Give your sons every chance of widening their vision. There is no necessity for them to trouble themselves with what is going on outside. Teach them obedience and keep them away from the position of political extremist's nonsense, and above all things, teach your boys the lessons of the motto over there—God save the King.' Teach them by all means to be patriotic; at the same time teach them to remember the King whom we all serve and we all intend to serve, and let it be remembered also that all servants of the Crown are your friends and not your enemies."

H. H. the Holkar on Education

Poor Children's Institute Bombay

His Highness the Maharaja Tukoji Rao Holkar presided recently at the prize distribution of the Poor children's Institute Bombay and urged on his hearers the need for the extension of education among all classes in this country. He said:—

I feel somewhat diffident, seeing how small my experience is, in addressing so many whose knowledge of the needs of education is so much wider than my own. Still in my stay in Europe I was brought face to face with that general spread of education among the poorer classes that must always strike those of us who come from India.

But now our conscience is awakening, and ladies and gentlemen, that awakening is in no small measure due to the good influence and example set by societies such as this.

One can, hardly, I think, escape drawing a parallel between the attitude we take up at home towards our own sons, daughters and relatives and that we adopt, or have so far, usually adopted, towards our poorer brethern among the masses of the people. We should consider it criminal to abstain from educating the members of our own circle so as to equip them for success and the proper use of life. Yet when it comes to those whom fate has placed in walk of like inferior to our own we are apt to leave them to stagger along the road as best they may without stopping to hold them out a helping hand, or what is worse even denying them, at times, those chances of rising which as human beings and fellow-countrymen it is our duty to offer them.

We have, lately, heard much about the growth of a national Indian spirit, but I am convinced that this will never be until those who are by education and position able to help will condescend to step beyond the narrow limits of their family and caste circles and assist those less fortunate to better their own lives, and become thinking men and women instead of mere automaton.

I have advisedly said 'And women' for it is here that we stand so immeasurably behind Eu-

ropean countries, and I am delighted to see that your society does not neglect female education. Educated mothers will mean sons wisely brought up during this early and highly respective years when the mother's influence is so powerful in shaping character. Without this raising of the masses our towns and villages will for ever remain insanitary and disease will stalk through them unchecked; improved methods of cultivation, new crops, fresh industries, all these things which tell in the race of life will come but slowly and painfully, or not at all. Finally those who are kept down by the iron bonds of a narrow social system, will learn that they have a right to the inheritance into which every man is born, and will insist in taking that place in the ranks of workers which their mental and physical attainments can win for them.

We are not, I may add, forgetful of our duties at Indore. A committee is now sitting to see whom we can best introduce a comprehensive scheme which will be gradually worked up to as finances allow, so that some day we may find schools in all but the tiniest village.

Meanwhile I am watching with the deepest interest the results of similar attempts in other quarters.

Your society has done and is doing noble work, and even if the general awakening to the educational needs of the masses throws your pioneer efforts into the shade I trust that your bold step into the breach and your share in awakening the public conscience will never be forgotten.

EDUCATION ABROAD

University of Pennsylvania U. S. A.

The University of Pennsylvania now has an endowment in money, buildings, book, collections, etc., of nearly $ 18,000,000. Large as this may appear, it is small as compared to Harvard, Columbia, Chicago and the great and growing State universities of the west. Many of the Western States provide a percentage from revenue for their State universities, so that they are independent of Legislature or the need of seeking personal benefactions. The library, for example, with over 300,000 books received from the State about $ 6 ,000, and from individuals a little over $ 4,000 and from income from endowment a little over $ 2,000. What it needs is a generous endowment of at least a million dollars. The vastness of the business of the University is shown in the large amount of its expenditures for 1912, over $ 1,306,000. The treasurer's report shows in detail how this large sum was obtained and expended and gives a long list of individual benefactions and of the endowments for the various branches of the University. A careful reading of these figures will suggest to the alumni and to all friends of higher education the many needs of the University that can be supplied by prompt and generous gifts.

Endowment

Mr. Algot Lange, who is to lead the University's Amazon expedition, is now making his final preparations for the three years trip into the deepest wilds of Brazil. He sails on December 28, from New york to Rio de Janeiro, on the Steamship "Vestus". Mr. Lange is to penetrate regions never before reached by white men, and to secure data and collections from the little-known tribes of the interior. It is proposed to make the investigation as thorough as possible, in order that the Museum may possess as extensive exhibits of the workmanship and art of the South American Indians as it does at present of the tribes of North America. The yacht which Algot Lange will use for his three years expedition into the jungles of the Amazon has just been christened "Pennsylvania" and her captain, J. H. Rown. a retired naval officer of the United States, is now in charge, and is getting together his crew of seamen. Mr. Lange will leave New York City on the morning of the 28th for Brazil to make the necessary diplomatic negotiations with the Brazi lian Government, and will meet the yacht "Pennsylvania" at Para about the middle of February, when the active work of the expedition will begin. On the evening before his departure Mr. Lange will give a farewell dinner to his friends, several eminent explorers and writers, at the Hoborau House, New York City. The Cosmopolitan Club has presented the ship with a University of Pennsylvania pennant which will be the official flag of the expedition during its three years in the tropics.

The University's Amazon Expedition

The Cairo correspondent of the *Pioneer* writes—The advance made in female education in the past decade is simply wonderful It is becoming more generally recognised that the future of the nation depends upon the emancipation of the Egyptian women and on her elevation to the level of the Egyptian men, and every nerve is being strained to secure this by an extension of female education in every direction. At a meeting of the Legislative Council held recently Hashmat Pasha, the Minister of Education, gave some interesting and remarkable figures in the course of the report on the subject. Up to ten years ago little progress had been made with female education. There was a total lack of native school mistresses and most of the tuition which was given by the female sex, had to be

Female Education in Egypt

given by European teachers specally engaged. In the year, 1903 a training school was started at Boulac to train young women as teachers in kuttabs. Since then the number of the last named category of schools has increased enormously, until last year the Government controlled 3,891, of which thirty-one are entirely devoted to girls. Three are entirely staffed by female teachers and the number of the latter has risen to 129. The total attendance at these schools was 18,758 girls, and that for all the girls' schools under Government supervision, irrespective of category, was 25,023.

Rabindranath Tagore at Illinois U. S. A.

Mr. Baneswar Das of District Council of National Education, Malda (Bengal) who has joined the Illinois University after successfully completing two semesters course at Wisconsin sends us the following news from 304 E Davidson St. Champaign Illinois on Nov. 16, 1912 :

Last week I wrote a letter to you informing you about the arrival of Rabi Babu here. He is well fired up with his party in a house here and is expected to spend the whole winter. They are staying here in their own style as far as possible.

The unity club of the unitarian church here has arranged a Series of lectures on Upanishad and Bhagabat Gita. Mr. Tagore was requested to talk on the subject of uparusen last sunday. The meeting was well attended mainly by the professors and others of the instructional staff and students. He read a very thoughtful paper on the subject. His paper was highly appreciated by the worthy audience. After the close of his speech people waited on him for nearly half an hour. He appeared in his long flowing attire, his son and others with their turbans and Mrs. Tagore in Indian dress (Sari). We attend the meeting in our usul dress here, Rabi Babu is going to hold a discussion on the same subject in the same church tomorrow. Next to this he is expected to talk on Bhagabat Gita.

The same correspondent wrote to us in a letter dated Nov. 3. 1912.

Our revered poet R. N. Tagore is at present in our midst. He reached here with his son and daughter-in-law on the 31st October last. Some Hindu students including myself, Prof. Brookes of the Engineering dept, and a chinese student who is the president of the cosmopolitan club were present at the station to receive him. He is at present a guest in the house of Prof. Brookes and and Rathi Babu with his wife is a guest in the house of Prof. Symore. Mr. Tagore is expected to spend the whole winter here if he be able to keep his health. Rathi Babu will take courses in uinversity and so is Mrs. Tagore expected to do. This will be the first Bengali lady student in the American University Great enthusiasm prevails here among the students and professors also in the local press on their arrival. Rathi Babu was for some time the president of the cosmopolitan club while a student here and so he was entertained in a suffer given by the club on the 1st ins.

The Cinematograph in the School

The possibilities of the cinematograph as a school aid is at the present moment engaging the attention of many Education Authorities in Great Britain. In America its value has been fully realised, with result that in many of the great cities it is regularly utilised in the schools. Now we hear that the Prussian Ministry for Education and Culture has signified its entire approbation of the use of the cinematograph in all higher schools throughout the country. Geographical, historical, and natural science subjects are considered the best for the edueational films, which are soon to be introduced into the curriculum. The expenses are to be met from a combination of sources, including Government grants appropriation of some of the school funds, and private donations. One world-famous firm of manufacturers on the Rhine has presented Berlin with several complete apparata including films, for the use of the metropolitan schools, and several others are providing them under cost price. The advent of the cinematograph in our schools would make education much faster and fuller and broader. The child will see in an hour what often a whole year of teaching might not impart, and the picture of things as they ate will be absolutely imprinted on the young and susceptible mind. The dull child who cannot be reached in the ordinary class of forty, sixty, or seventy pupils is immediately arrested by picture teaching ; his attention is riveted without any effort on his part. Thousands of backward children in the schools will be benefited by the cinematograph. To the deaf and dumb and to the mentally defective education by picture means the removal of one of life's heaviest handicaps. Of course, the difficulty which keeps the cinematograph out of the school at the present time is both financial and structural. The regulations of the authorities require the provision of a fireproof operating-box connecting with the outer air for the operator, a provision which cannot conveniently be made in many schools where the "magic" lantern is worked without difficulty. Many of the existing lanterns could be adapted to project the cinematograph film at but small expense, but the hiring of the films, small as it is compared with the early days of the "living picture," must necessarily involve some considerable expenditure. Once the Education Authorities, however, realise the educational value of the cinematograph these difficulties will be overcome.

PSYCHOTHERAPIC CULTS:[1]

CHRISTIAN SCIENCE; MIND CURE; NEW THOUGHT

By Professor J. H. Leuba, B. A.
Bryn Mawr College, Philadelphia, U.S.A.

THE most noteworthy religious event since the Reformation is perhaps the appearance in the United States of a number of religious movements which may be grouped together under the designation of psychotherapic cults. The foremost of them is "Christian Science," founded by Mrs. Mary Baker Eddy.

I hasten to add that the value of these cults does not, in my mind, belong to their "metaphysics," considered as a philosophical system. It is the product of ignorant and ill-trained minds. Much of it defies logic and offends common sense. But the defects which in the eyes of many wholly damn these movements might conceivably be removed, and there would remain important elements of a new religious faith acceptable to the modern world.

I shall try to show that the psychotherapic movements in their essential teaching are popularized and distorted formulations, on the one hand, of important truths regarding the "power of thought" over body to which psychology has recently given added significance, and, on the other, of a non-theistic philosophy allied to the absolute idealism of modern metaphysics. Although they distort contemporary thought, they do not intend to oppose it. They wish rather to build upon it.

These new cults are forcible reminders of the fact that belief in a saving power is a condition of the existence of religion, and also that the desire for deliverance from moral and physical miseries and for the realization of ideals continues to be the motive of religious life, just as it was in the days of Gautama the Enlightener, and of Jesus the Healer.

* * *

The mind-cure books announce "the discovery of the might of truth in the treatment of disease as well as of sin," "the vital law of true life, true greatness, power, and happiness." They claim to be "systems of transcendental medicine," or of "psychic therapeutics." They purpose to minister to those who "would exchange impotence for power, weakness and suffering for health and strength, pain and unrest for peace, poverty for fulness and plenty." They proclaim "the birthright of every man born into the world to be physically whole and mentally happy." Their claims have an extravagant sound, but no more so than those made for "faith" by the New Testament writers who declared it would remove mountains and secure eternal blessedness after death. Nothing but vital experiences could have inspired the enthusiasm and the assurance with which these modern zealots proclaim the abounding efficacy of their "truth."

If they call themselves Christians, it is not the traditional sense. Of traditional Christianity they speak respectfully, but they want a new dogmatics. They say, "The time for thinkers has come. Truth, independent of doctrines and time-honored systems knocks at the portal of humanity."[2] In another of their aggressive little books one reads: "Unrest is universal. The old landmarks are disappearing ...Creed and dogma are things of the past; religious ceremonial and form no longer interest the masses."[3]

The impression these cults have produced on thoughtful religious people is well expressed in this passage:

"Renan with his usual intuition declared that if it [the religion of the future] were already in our midst, few of us would know it.

"The prediction has proved true. The new religious movement Christian Science has spoken a language so foreign to cultivated ears, its interpretation of the Bible is so false, it is so obviously committed to errors, illusions, and aberrations of every sort, that the intelligent have been disposed to shrug their shoulders in contempt and to ignore it. And yet they have not been able to ignore it altogether. Every once in a while this curious superstition proves its existence with unexpected power. We see a hard-headed business man totally devoid of religious sentiment undergo a new kind of conversion which leaves him as devout and ardent as a Christian of the first century. An ailing wife or daughter whom no physician has been able to help, through some mysterious means is restored to health and happiness. The victim of an enslaving habit, apparently with very little effort and without physical means, sufferings, or relapse, finds himself free. We enter a home where the new belief reigns and we find there a peace to which we are strangers.

"All over the country solid and enduring temples are reared by grateful hands and consecrated to the ideal and name of Mrs. Eddy. And this strange phenomenon has occurred in the full light of day, at the end of the nineteenth and at the beginning of the twentieth century, and these extraordinary doctrines have propagated themselves not in obscure corners of the earth, among

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[1] A discussion of other contemporary movements will be found in the author's book, *A Psychological Study of Religion: Its Origin, Function and Future*, Macmillan, 1912.

[2] Mary G. Baker Eddy, *Science and Health*, 1908, Preface.

[3] Charles B. Patterson, *A New Heaven and a New Earth* Preface.

an illiterate and fanatical population, but in the chief centers of American civilization. Such facts may well cause the philosophical student of religion to reflect."[4]

In these movements is restored the alliance between the art of healing the body and the art of healing the soul, which was always a leading characteristic of the higher religions during their period of greatest vitality. To the masses the most impressive aspect of religions has always been their power to heal the body. It was so in the early ministry of Christ and during the first Christian centuries. It is so now with these psychotherapists. And this revival acquires great significance from the fact that it can now be grounded upon the deeper understanding of the interrelation of mind and body, which we owe to modern science.

Speaking of the "four noble truths' of Buddhism, (चत्वारि), i.e., the four axioms or certainties: the existence of suffering, the origin of suffering, the emancipation from suffering and the path that leads to the emancipation from suffering, Kern says: "It is not difficult to see that these four ...s are nothing else but the four cardinal articles of Indian medical science, applied to the spiritual healing of mankind, exactly as in the Yoga doctrine. This connection of the ...s with medical science was apparently not unknown to the Buddhists themselves." And concerning the twelvefold causal root of the evil of the world, the twelve ...s (causes), he declares that they stand to the four Satyas 'in the same relation as pathology to the whole system of medical science.' Now the four truths and the twelve causes are fundamental facts upon which Gautama's scheme of deliverance is built."[5]

My chief effort will be to get from the writings of the leaders of these therapeutic schools a clear idea of the power with which they expect to regenerate humanity, and then to consider its adequacy. Whatever their affiliations, these writers practically agree on the points that most interest us. I do not shrink from putting before my readers, to begin with, brief quotations from two of the most extravagant and crude of these authors; for even they find followers among people who prove themselves intelligent and sensible in the affairs of life.

T. Troward, a leader of Mental Science (not a disciple of Mrs. Eddy), late divisional judge in Punjab and Edinburgh Lecturer of Mental Science, teaches the existence of an unlimited, impersonal, though intelligent power, which man may press into service, or appropriate to himself. His view of man's relation to that power is curious. The individual can call it into action and give it direction, "because it is in itself impersonal though intelligent." "It will receive the impress of his personality, and can therefore make its influence felt far beyond the limits which bound the individual's objective perception of the circumstances with which he has to deal. It is for this reason that I lay so much stress on the combination of two apparent opposites in the Universal Mind, the union of intelligence with impersonality.....How do you know what the intention of the Universal Mind may be? Here comes in the element of impersonality. It has *no intention*, because it is *impersonal*.....Combining, then, these two aspects of the Universal Mind,.....we find precisely the sort of natural force we are in want of, something which will undertake whatever we put into its hands without asking questions or bargaining for terms, and which, having undertaken our business, will bring to bear on it an intelligence to which the united knowledge of the whole human race is as nothing, and a power equal to this intelligence."[6]

I find it difficult to conceive an unlimited impersonal intelligence which has no intention and which individual intelligence may direct. But in fairness to the abstruse judge, I must add that this difficulty is no greater than that presented by Hegel's conception of the Absolute Mind.

In the work of W. F. Evans we meet a consistent pantheism. He strives to give to his opinions an impressive background compounded of modern science, antique pantheism, and modern idealism. How vast and accurate is his knowledge will appear in the following passage. I quote it without apology as another instance of a type of conception apparently rational enough to be accepted by many intelligent people. "The soul of man is a part, so to speak, of the *anima mundi*, the soul of the world." The power of the healing thought "issues from the spiritual world of which our minds are a part, for all idea belong to that boundless realm of life." "It is stored up in exhaustless and overflowing abundance in the bosom of nature.....it can be controlled in its lower degrees of manifestation by the intelligent will of man, which is the highest form of its development and expression." "This grand whole.....the universal world of spiritual intelligence is called in Sanskrit, *Addi-Budda*. In the writings of Paul it is called the Christ.....It is identical with what is called magnetism, and his

[4] Elwood Worcester, Samuel McComb, Isador H. Coriat, *Religion and Medicine*, New York, 1908, pp. 8...

[5] Kern *Manual of Buddhism*, Grundriss der indo-arischen Philologie und Altertumskunde, Vol. III, No. 8, pp. 46-47.

[6] T. T... *...es of Mental Science*. The Arcane Book Concern, 1909, Chicago, pp. 66-68.

also that which the philosophers have called the divine *nous*."[7]

One of the ablest and sanest writers of New Thought, Ralph Waldo Trine, in a book which passed its seventy-fifth thousand, also announces a pantheistic gospel of an infinite power at the service of man. "The great central fact of the universe is that spirit of Infinite Life and power that is back of all, that animates all, that manifests itself in and through all; that self-existent principle of life from which all has come, and not only from which all has come, but from which all is continually coming."

"This Infinite Power is creating, working, ruling through the agency of great immutable laws and forces that run through all the universe, that surround us on every side. Every fact of our every-day lives is governed by these same great laws and forces."

"In a sense there is nothing in all the great universe but law." But the presence of law indicates a force back of them. "This Spirit of Infinite Life and Power that is back of all is what I call God."

"God, then, is this Infinite Spirit which fills all the universe with Himself alone, so that all is from Him and in Him, and there is nothing that is outside.....He is.... our very life itself." "In essence the life of God and the life of man are identically the same, and so are one. They differ not in essence, in quality; they differ in degree."

".....if the God-powers are without limit, does it not then follow that the only limitations man has are the limitations he sets to himself, by virtue of not knowing himself?"

"*The great central fact in human life, in your life and in mine, is the coming into a conscious vital realization of our oneness with this Infinite Life and the opening of ourselves to this divine overflow.*" This means simply "that we are recognizing our true identity, that we are bringing our lives into harmony with the same great laws and forces and so opening ourselves to the same great inspirations as have all the prophets, seers, sages, and saviours in the world's history, all men of truly great and mighty power."[8] He does not hesitate to use the term "God-man."

Christian Science.

It seems almost incredible that one professing to be a Christian should teach the impersonality of the divine nature. And yet this is undoubtedly what Mrs. Eddy does, and in this respect she agrees with those from whom I have just quoted. The term that she prefers as a name for the Divine Power is Principle. As synonyms she uses Life, Truth, Love, God. In the earlier editions of *Science and Health*, it is written that God "is not a person, God is Principle."[9] This is undoubtedly the standpoint of her later writings also. But in them, probably because of the pressure of adverse public opinion, she insists less than at the beginning of her career upon the impersonality of Principle, and the word "person" appears more frequently. "Once in 1898, Mrs. Eddy hints that God may be personal 'if the term personality, as applied to God, means infinite personality', and Mr. Farlow in 1907 assures the Rev. Edgar P. Hill that Mrs. Eddy does believe that 'God is person in the infinite sense.',"[10] I take the following passages from the same book: "Principle in her theology gathers up into itself all the concepts we habitually associate with God, except the most important—personality. Before her book appeared in 1875, she was telling her pupils, as two of them informed me, that they could make no progress till they had banished from their minds the thought of God as a person. She instructed Richard Kennedy 'to lay special stress' in healing patients on the impersonality of God. This is the commanding thought that rings through the first chapter of the first edition of *Science and Health*.

"Mrs. Eddy's pantheism is unnecessary, and yet its origin was inevitable in a mind as literal as hers. Quimby often spoke of God as Principle. In the Quimby manuscript from which, for several years, Mrs. Eddy taught, no sentence is more startling than the sentence 'God is Principle.'"

"For more than thirty years Mrs. Eddy has been solemnly asserting that in 1866 she received a 'final revelation.' Now this 'final revelation,' which was finally as well as first expressed in 1875, in *Science and Health*, is saturated with thought that God is not a person. In the very first chapter we are informed that 'God is Principle, not person,' [I do not find that expression in the first chapter of the 1908 edition, but it is in *No and Yes*, published in 1909] that Jesus preached the impersonality of God, that the error of believing in the personality of God crucified Jesus, that the trouble with conventional Christianity to day is that it makes God a person.....' (Pages 137-140).

On the other hand, in the seventy-third edition of *No and Yes*, published in 1909, a pamphlet

[7] W. F. Evans *The Primitive Mind Cure? Elementary Lessons in Christian Philosophy and Transcendental Medicine.*

[8] Ralph Waldo Trine, *In Tune with the Infinite or Fullness of Peace, Power, and Plenty*, Thomas Y. Crowell and Co., New York, pp. 11-20.

[9] Mary G. Baker Eddy, *op. cit.* 3d. ed., 1881, I, 67; II, 27.

[10] Lyman P. Powell, *Christian Science, the Faith and its Founder*, pp. 139-140.

intended "to corect involuntary as well as volumtary error," we read : "Is there a personal Deity" ? God is infinite. He is neither a limited mind nor a limited body. God is Love and Love is Principle, not person. What the person of the Infinite is, we know not ; but we are gratefully and lovingly conscious of the fatherliness of this Supreme Being. God is individual, and man is his individualized idea.....Limitless personality is inconceivable..... Of God as person, human reason imagination and revelation give us no knowledge.

"When the term divine Principle is used to signify Deity it may seem distant and cold, until better apprehended. This Principle is Mind, Substance, Life, Truth, Love. When understood, Principle is found to be the only term that fully conveys the ideas of God, —one Mind, a perfect Man, and divine Science."[11] This Principle though not a person, "is intelligence."

Although she wrote, "God is All in all," and "All in all is God"[12] she will not be called a pantheist. In the edition of *No and Yes* already quoted, she claims that "Christian Science refutes pantheism, finds Spirit neither in matter nor in the modes of mortal mind. It shows that matter and mortal mind have neither origin nor existence in the eternal Mind...For God to know, is to be ; that is, what He knows must truly and eternally exist. If He knows matter, and Matter cannot exist in Mind, then mortality and discord must be eternal."[13]

Her pantheism is in any case not materialistic, since she holds matter to be unreal, a deception of mortal mind. Hers is an idealistic pantheism, such as an ignorant person of a thoroughly optimistic temperament might evolve on the basis of imperfect knowledge of absolute idealism and from observation of the mastery of mind over body.

The writings of Mrs. Eddy's disciples reflect the uncritical, pantheistic idealism of their leader. Their favorite phrases are such as these. "God's presence is the presence of love,." "God is life everywhere present ;" "One life fills all, it is the Perfect Life."

The similarity of the essential aspects of New Thought and Christian Science to the mystical element in Christianity is evident. Both give clear expression to the anti-isolation motive, to a dynamic belief in oneness-with-the-whole, and both feel the essence of the cosmic plasma to be love. Man is steeped in all-embracing Love. He need only place himself in unison with the everlasting, all-comprehending life-force and the fulness of life will be his. How love can be an attribute of an impersonal power does not seem to give Mrs. Eddy one moment of uneasiness.

In their curative practices, the psychotherapic cults have the benefit of recent discoveries concering the effects of suggestion. Regarding their methods, I may say here merely that they tend to place the person, as do the practices of the other ethical religions, in a state of increased suggestibility, a state described in part by the words relaxedness, collectedness, monoideism, meditation, communion. This condition of the subject aids greatly in the realization of the expected benefits. The efficacy of these curative methods is sufficiently demonstrated by the wonderful extension of the movements. In every walk of life people bear witness to the saving grace that is in Christian Science or in New Thought. The forces of a new life have welled up within them ; the burdens of existence have lightened, nay, have disappeared ; and now they walk through life contented, hopeful, and aggressively benevolent.

The following is an example of what people find in Christian Science apart from the cure of disease :

"I accepted *Science and Health* without expecting it to offer more than human theory about life,—even the name did not lead me to expect it to be religious ; in fact, the chief incentive to my reading it at that time was the great kindness and sincere sympathy evinced by my friend, who placed a copy at my disposal. ... I started timidly at first and prayerfully, lest it should be misleading, but before I had gone very far I experienced that wonderful spiritual quickening which is so often spoken of in our meetings. I wish I could tell exactly what the experience meant to me, the wonderful awakening I had ; how old things vanished and all things became new. It seemed as if the burdens, perplexities, doubts, and fears had all suddenly rolled away ; as if the sun had emerged from behind the clouds, and everything was again bright and beautiful.

"And what a feeling of strength, hope, and courage came ! Those old troublesome questions, especially the question of death, were explained, and I felt a wonderful release to know that death was not of God. I read and reread the latter part of the chapter on Christian Science Practice, where that glorious truth is explained ; it was so beautiful, so natural, and so true. There was such perfect joy to me in that freedom, that I used to declare over and over again, of those who had just passed from us (the members of our home circle), 'They are not dead ;' and so free was I made from the old bondage, that never since then has the thought of that change affected me as it did before." [14]

[11] Eddy, *No and Yes*, 1909, pp, 19, 20.
[12] Eddy. *Science and Health*, 1898, p. 7.
[13] Eddy, *No and Yes*, pp. 15, 16.
[14] *Christian Science Sentinel*, Dec. 3, 1901.

Unnecessary importance is attached by the critical public to the vagaries of Christian Science and of New Thought; for instance, to the denial of the reality of matter, and therefore of disease; to the wild hopes of some of their prophets that "the time will certainly come when the highly developed man will have the power to lay down or take up his life through a conscious knowledge of the laws of eternal being and the direct application of these laws to his own life."[15]

When I say "wild hopes," I speak as the prosaic man that I am. No less a philosopher than Bergson has expressed that same hope of overcoming death.

An apologist of the psychotherapic sects would be justified in making the following claims:

1. The salvation they promise is first of all for *this life*.

2. The soul is not saved independently of the body. The nefarious asceticism of older faiths is impossible on the principles of Christian Science.

3. Their ideal involves efficiency in the conduct of this life.

4. Their conception of salvation is free from anything miraculous. They dispense with the wonders of the Fall, of the self-sacrifice of a divine personage, and of salvation by his atonement.

5. They divert attention from the sense of guilt and suffering, and direct it to an immediately accessible healing and invigorating power.

6. Although they usually define the aim of life in terms of power, happiness, and love, they cannot fairly be charged either with insensitiveness to moral values, or with indifference to the ethical advancement of mankind.

7. Despite its extravagance, their "metaphysics" may be regarded as a formulation, crude and distorted, of a *Weltanschauung* made unavoidable by modern knowledge,—a *Weltanschauung*, opposed in several important respects to the traditional but no longer acceptable Christian philosophy.

8. These cults have proved their value by their results.

In estimating the chances of continued life of religious movements, one should bear in mind that vitally beneficial beliefs may carry a heavy load of error and even of absurdity. The Christian religion was not destroyed by the expectation of the second coming of the Lord and of the end of the world, by extravagant notions of the power of faith, by absurd or incomprehensible doctrines regarding the means of salvation, the resurrection of the body, and the like. There is enough substantial, practical truth in Christianity to bear the enormous doctrinal dead weight it carries even to this day. It may be possible for the psychotherapic doctrines to be purified in a reformation which would either remove entirely or drive into side currents most of the offensive tenets.

J. H. LEUBA,
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[15] Charles B Patterson *op. cit.*, Preface.

LITERATURE OF THE ROMANTIC AGE

(*Continued from page 238.*)

It is supposed by many that Scott was a poet by instinct and a novelist by accident. This idea takes the mind the more easily when one sees the peculiar circumstances under which he wrote most of his novels. The crash consequent upon the failure of the Ballantynes, made him work double tide to redeem his position; and the labour, in fact, killed him.

Scott had been really the greatest English poet of his time, before Byron checkmated him by his *Childe Harold's Pilgrimage* in 1812. Properly speaking, his first publication was *the Border Minstrelsy*, of which Scott had been a collector of materials since his college days, when he went on frequent excursions into Liddesdale, and other like places. The publication of the *Border Minstrelsy* in two volumes in January 1802, was a splendid success. This is more characteristic of the author, than any of his other works; for, as Hutton says, it gives more than a glimpse of all his many great powers—his historical industry and knowledge, his masculine humour, his delight in restoring the version of the "old, simple and violent world" of jagged activity and excitement, as well as that power to kindle men's hearts, as by a trumpet call, which was the chief secret of the charm of his own greatest poems? We have here, moreover the promise of the great novelist, that was to come. Scott had busied himself more with commonplace and everyday life than with the most romantic situations; and this can be gathered from the introductions and notes of the various poems composing *The Minstrelsy*. But *The Minstrelsy* does not boast of anything like the force which permeates his maturer poems, specially his *Marmion*.

The most important poems of Scott besides those mentioned above are *The Lay of the Last Minstrel* (1805), *the Lady of the Lake* (1810), *Rokeby* (1812) and *The Lord of the Isle* (1815). The subjects are, more or less, drawn from mediaeval and romantic sources. Besides these there are many exquisite little lyrics, which add greatly to Scott's fame as a poet. "There is nothing of the personal or autobiographical in his

poetry; there is nothing of Byron's intensity of feeling or force of personality. He shows a great love of external nature; but nature is hardly sufficing in herself; she must be haunted or peopled with human beings, with wild Highlanders or a legendary 'lady.'"

"Byron, Shelley, Keats!", exclaims Prof. Wyatt, "what a trio: what inexhaustible romantic interest, what marvellous and fascinating life-stories, crowded into the space of thirty-six, thirty, twenty six years, respectively!" "But," he stops short, "our business is history and criticism."

Byron first took the world by his *Childe Harold* in 1812. He had travelled in Greece for two years and thence he acquired the inspiration which gave birth to the first two cantos of *Childe Harold*. It was the time, when Europe was struggling in the unrelenting grasp of Napoleon Bonaparte: the game was soon to be over; all Europe was panting for release, and Byron chose the happiest theme, then possible. *Childe Harold* took the whole of Europe by storm and "Byron became the lion of London society." Byron had written *Hours of Idle ess* in 1807, and *English Bards and Scotch Reviewers* in 1809; and many more after *Childe Harold Cantos I and II*; but none was so effective as these two cantos of *Childe Harold*. This success is justly attributed to the ripeness of the situation in which they saw the light. On the whole, Byron's poetry is remarkable for its force, rush, range and versatility; no one can surpass him in these; but he was weak in form, versification, diction and execution, which are necessary in poetry. No one entire poem can be taken as Byron's master piece. But occasional brilliant passages are not rare—nay, they are profuse—in the whole range of Byron's poetry; and one feature noticeable is that the autobiographical portions are the most exquisite in his poetry.

"He comes and goes like a spirit, no one knows when or where"—so Shelley was described by a friend and none described him better in so few words. Indeed, the sum-total of his mundane existence was this.

Percy Bysshe Shelley was an extraordinary man. Born in an aristocratic family, he was revolutionary to the backbone. This spirit first showed itself in his pamphlet *The Necessity of Atheism*, in 1811, which brought about his removal from the University. In this way, he dodged about during the whole life and never cared for anything in the world. He least cared for himself, and if he did at all care for anything, it was for others. He was, it is said, generous to a fault. "He not only gave his money, but his time and toil to those who needed them."†

His first great poem was *Queen Mab*, 1817 (?). The other longer works of Shelley are *The Revolt of Islam; Julian and Maddalo; Hellas; Prometheus Unbound*; and *Adonais*, which is considered the best English elegy. But Shelley's real claim to greatness lies in his beautiful little lyrics, of which the most famous are, *The Skylark, To Night, Cloud, Ode to West Wind.*

"Shelley", says Symonds, "contributed a new quality to English literature—a quantity of ideality, freedom and spiritual audacity, which severe critics of other nations think we lack."

Mathew Arnold accuses Shelley of unsubstantiality. "The man Shelley," he says, "in very truth, is not entirely sane either. The Shelley of actual life is a vision of beauty and radiance, indeed but availing nothing, effecting nothing. And in poetry, no less than in life, he is a beautiful and *ineffectual* angel, beating in the void his luminous wings in vain."

Shelley's strong point, however, is the splendour of his imagination. He had also the defects of his quality. Often the splendour is much too dazzling for the human eye; and this obscures the meaning. Though now and then, Shelley is clear, and simple and nervous, still this obscurity remains his besetting defect. "Had he lived longer," says an apologist,* "he might have somewhat subdued his style and aimed at truth and simplicity." Shelley had a rich store of materials, but he could not put them together in harmonious entireties. His subjects are not always happy. But, with Swinburne, one likes to emphasize that the melody of his lyrical verse simply enraptures.

The defects of Shelley's style, as pointed out by J. A. Symonds, are "haste, incoherence, verbal carelessness, incompleteness, a want of narrative force, and a weak hold on objective realities."

John Keats was believed to be a disciple of the "cockney" school of poetry of which Leigh Hunt was the high-priest. This school, as its name clearly implies, was an object of contempt and ridicule to the writers of the age. Byron spoke of it disparagingly.

His span of life had been brief—extending just a little over a quarter century; and into this short space was compressed all the wealth of riches, and power that made Keats what he was, and it is no wonder that he should bend down under the weight of this extraordinary burden of wealth. The commodity of a whole life had been, for Keats, compressed into eight small years.

Keats' was a precocious genius, powerful but futile. He himself opined on his *Endymion*, as a feverish attempt, rather than a deed done. The promise that he gave was nothing fulfilled. His works, though containing really poetic merits, are full of childish frivolities, and imbecilities; and if truth must be told, the *Quarterly* was not far wrong

* Wyatt.
† David Lister Richardson.

Richardson.

in that business of the review of *Endymion*, which, as Shelley alleges, brought about the untimely end.

Of course, it is impossible to say with any amount of definiteness what the man would have accomplished, had he been spared. But, as has just been remarked, the promise he gave, spoke something. He had an extraordinarily rich imagination and sensibility. The Elizabethan tune was again in the air; and like Shelley, Keats combined in himself the Hellenic and the Elizabethan influences. It may be mentioned here, that Keats' imagination was fired by the perusal of "Faery Queene"; Spenser was his great master, and the disciple is like his master, "the poet's poet" in as much as, not a little did he supply for the materials of his successors.

Though *Endymion* is the longest of Keats' works, it is by far the least important and representative of the poet. It contains occasional passages of description, gorgeously done, and really worthy; but much of it is unworthy of the poet. *Hyperion*, another Greek piece is a little better than its predecessor, some faults of which are rectified in the later piece. This with *Lamia*, and odes to *Autumn* and to *Nightingale* speak of a more chastened and matured sense and understanding.

Other poets of any note of this period, are Southey, Rogers, Campbell, Moore, Leigh Hunt and Walter Savage Landor.

Southey's chief works are *The Curse of Kehama*, *Thalaba*, *Madoc*, *Roderick* and some minor poems, of which *The stanzas written in his Library* and *After the Battle of Blenheim*, are well-known. These latter, Southey wrote for reviews and magazines, and received money for his labour. Southey had a high notion of his own writings. Sir Henry Taylor characterizes him, when he says, "There were greater poets in his generation, and there were men of a deeper and more far-reaching philosophic faculty; but take him for all in all,—his ardent and genial piety, his moral strength, the magnitude and variety of his powers, the field which he covered in literature, and the beauty of his life,—it may be said of him justly and with no straining of the truth, that of all his contemporaries he was the greatest MAN."

Samuel Rogers' most noted works are *The Pleasures of Memory* published in 1793, and *Italy*, completed in 1834. The former, as a critic remarks, is an excellent specimen of what Wordsworth calls, "the accomplishment of verse." It is not wanting in poetic achievements, but we also find in it the formal and carefully selected diction of the school of Pope. *Italy* is a collection of small pieces, giving an account of poet's journey from Geneva to Naples; needless to say, it is poetically described, and there are many pleasing pictures, traditions, and historical facts, which very well deserve to be preserved in poetry, and which the poet has done sufficient justice to. One defect, however, is this that Rogers is not so successful with rhymes. here; blank verse, it appears, would suit such a long poem, infinitely more than rhyme does.

Roger's poetic powers were equalled, and even surpassed by many of his contemporaries; but his rare endowment of original wit is equalled by few, and surpassed by none.

Thomas Campbell's *The pleasures of Hope*, published in 1798, is written in imitation of Roger's 'The Pleasures of Memory'. Of the two, Campbell's performance surely wins the palm, in respect of fineness. But its dullness, and desultoriness have spoilt it. Campbell's ballads, though not perfect in execution, are still of importance, in as much as they breathe out the aroma of sincerity and patriotism. Campbell is also responsible for two narrative poems, *Gertrude of Wyoming* and *Theodoric*, the first of which has more merits than defects and the latter has allowed its beauty to be clouded by its defects.

"Thomas Moore", says Prof. Wyatt, "lives in poetic history by three works: his 'Irish Melodies', in which his celtic enthusiasm and patriotism are suppressed in deference to his English drawing-room patrons; his 'Lallah Rookh' (tulip cheek) a collection of Persian tales, of which 'Paradise and the Peri' is the best known; and the 'Judge Family in Paris', a satire on the Englishman abroad." *Lallah Rookh* contains many gorgeous oriental descriptions. "Moore's style is too effeminate and artificial to give his stories much interest, and perhaps the best feature of *Lalla Rookh* is to be found in its occasional lyrics".

Leigh Hunt was a friend of Shelley and Keats. *The Story of Rimini* (1816), which he wrote in imprisonment, to which he was sentenced for libelling the Regent, secured for Hunt, a place among the *literati* of his age. The poem contains some real poetic excellences and it strongly influenced Keats, who wrote, by the bye, a sonnet on Leigh Hunt, when he came out of prison. Of his shorter pieces, *Abu Ben Adhem* is certainly the best. Besides being a poet, he was a journalist, and hence a critic and essayist and that of no mean order.

"Walter Savage Landor", says George Lillie Craik, "was the master of a stately Roman style in verse, just faintly flushed with the Romantic grace." *Gebir*, published in 1798, is an epic written in Miltonic style of blank verse. His tragedy *Count Julian* has some merits, but is "cold and stiff", "His brief poems", says Craik, "haughty, concise and tender, are often impeccable things".

(*To be continued*).

AJAX.

THE INFLUENCE OF POETRY ON HUMAN LIFE.

Poetry has been influencing man from the earliest times to which history can carry us back or even from a period anterior to it when songs and lyrics flowed about outside the trammels of books and were transmitted only by word of mouth. Some go even further and make it as early as language itself and find in the inarticulate effusions of the primitive man bowing in reverence to the sun and sea, as much of poetry as in any elaborate piece of the twentieth century. Nor is the range of influence only long in point of time but it is as broad as humanity itself, there being scarcely a man who has escaped its witchery. If there has been any who has denied this power of poetry, he must have done it either through perverse love of denial, conscious that he was false or he must have been a rare specimen of a man impervious to Poetry, as much diseased as one music-deaf or colour blind.

The well known mathematician who could not be satisfied with a poem of Milton for its not educing a proof, only wanted from it what was beyond its province perhaps through sheer itching of having problems proved. Thus it can never be gainsaid that Poetry exerts a potent influence, but in this not enough for our purposes. It remains to be seen if this influence is for good or for evil; if it conduces to man's nobler ends or only panders to his baser passions; if it is like hearth fire giving him useful and genial warmth or like a conflagration burning all that is noble in him. Let us turn to the master minds of ancient Greece who also gave the subject their thought and see if we can get anything. Aristotle found much merit in at least one branch of Poetry viz. tragedy, because of its two elements sorrow and pity through which it purges man's minds. But with Plato, the case of Poetry was hopeless. He could with all his discerning and penetrating intellect see nothing in Poetry that could entitle it to a place in his blessed Ideal Republic from which it was wholesale banished as a punishment for its enervating and debasing qualities. We need not wait to analyse what hindered his view of Poetry in its true perspective and what presented to his vision its wrong side only. But in the cases of both the personages, in their condemnation or partial praise of it they have tacitly given their sanction to my former position that Poetry is a depository of enormous power. Besides, it is also apparent that they used the word Poetry in its common acceptation, widening it to cover not only what is true Poetry but also that which is a perversion of it, justly deserving condemnation. But Poetry should always mean true Poetry, and in order to avoid confusion, a separate word should stand for its debased form.

Poetry by which I mean true Poetry contains nothing in it that can deserve condemnation. This will be made clear, if we look into its nature. It is the effluence of mind when it is set aglow with ideas and impressions, and such an elevation of mind is in itself a check to things obnoxious. It may seem an anomaly, why even the greatest poets have not scrupled to introduce into their works things ugly and immoral. The solution of it is not difficult to find. The province of Poetry being nature both external and internal they are at liberty to use such materials, but they must be treated as mere instruments to set off the moral and the beautiful. If they are dealt with otherwise, if they be as ends in themselves or given so much prominence as to keep the other part wholly under their wings, there is every reason to deny the place of such inconsiderate combination in Poetry. True Poetry never goes counter to morality in its effects. It never tries to create delusions in which wrong sees better than right. It never aims a blow of man's moral nature. It may not, in many cases have a set moral purpose, its effects may be non-moral but never immoral, of Poetry the satisfaction of the human heart is at once the end and the criterion, and let us verify, if impurity has satisfied the human heart from the testimony of ages. I quote Professor Blair here, for the direct bearing of his remarks on this point. Writing of Epic Poetry he says, "No Poetry is of a more moral nature than Epic Poetry. It is no small testimony in honour of virtue that several of the most refined and elegant entertainments of mankind such as that species of poetical composition we now consider viz. Epic Poetry, must be grounded on moral sentiments and impressions. This is a testimony of such weight that, were it in the power of sceptical philosophers to weaken the force of those reasonings which establish the essential distinctions between vice and virtue, the writings of Epic poets alone were sufficient to refute their false philosophy; showing by that appeal which they constantly make to the feelings of mankind in favour of virtue that the foundations of it are laid deep and strong in human nature." From this it is evident that not only are man's moral and religious yearnings satisfied by Poetry but also that he cannot bear anything that touches his moral susceptibilities. In this appeal to the moral element in human nature and the strengthening of it, 'Poetry' in the language of Professor Shairp, 'makes common cause with right reason and true philosophy. It combines in its influence with all those benign tendencies which are working in the world, for the melioration of man and the manifestation of the kingdom of God.' Thus Poetry is worthy of as high a place as

philosophy. But, I think that Poetry ought to be given a higher place at least in one respect viz. as inspirer of action. This may be explained by a reference to their respective methods of teaching. Poetry appeals more to the feelings and imagination while philosophy has more to do with the understanding ; but feelings and imagination are readier and more effective springs of action than the understanding. Besides they differ widely in their manners of teaching. Poetry teaches us through the feelings and in consequence so very pleasantly that we can hardly detect in the process that we are being taught. It cures the ills of our minds by administering sugared pills as it were, while philosophy does it by filtered doses with all its bitterness. This effect of Poetry appears in the fullest light in the acting of dramas. Here it takes the help of the sister arts music and painting which take away even the slight strain that we might feel while we read some work of Poetry in our respective closets, our minds are rendered the most passive imaginable and feelings the most varied are roused in them as the play progresses. "In behalf of virtuous personages, our affections are engaged, in their designs and their distresses, we are interested ; the generous and public affections are awakened." We take strength from the sufferings depicted and are encouraged to bear up in life struggle. We get an insight into human nature which adds to that which we get from personal experiences. We laugh over our own vices and follies, and our attention should be given to the preservation of a healthy tone in them. In this connection I quote a few remarks in regard to German theatres from a recent number of the Contemporary Review. They are as follows :—It is a healthy symptom of the present condition of the German stage that theatre audiences in Germany are still susceptible of division into two classes, those who go to the play to be amused and those who go to be instructed. The second class of theatre audiences has always predominated in Germany and is still in majority. The educational functions of the stage are still highly esteemed." Thus we see in what light the stage is viewed in Germany. If we trace the history of theatres in other European countries, we shall see that these institutions were at times given the high position they occupy in Germany.

In our country however much remains to be done in this matter, and the sooner this view of theatre is recognised and consciously acted upon, the better.

Now, another point I wish to point out in regard to Poetry, and this may be inferred as a corollary from what has been already said viz., the great part it plays in the up-building of a nation. I only emphasize now the influence of Poetry on collections of men, while formerly I specialized its effects on individuals. It must not be thought that Poetry alone can build a nation but I mean only this that in co-operation with other necessary forces, it can help them up and contribute its own share of effective work. Nothing can better aid the creation of a healthy change in the political and social views of a country and stir men's minds to a work of common interest than poems and songs framed for the purpose. To make the thing clear, I need only instance the poem of the type of Hem Chandra's, জীবন সঙ্গীত and ভারত কাহিনী. Rabindra Nath's stirring patriotic lyrics and Bankim's famous song which will be remembered for their animating power as long as the Bengali language endures. The old custom of listening to the songs of wandering minstrels helping to keep alive the memory of the past noble and heroic deed of ancestors, has become obsolete, but we can apprehend the heavy loss by a glance at what benefits it conferred on the people of Rajputana and Scotland where it long prevailed. To bring home to us what Poetry can effect, we need only recall the enormous precautions that were taken to suppress the patriotic dramas of Schiller.

In conclusion, I wish to point out the view that sets up as the end of Poetry, only the ministering of refined pleasure. Perhaps this view took its rise from a narrow conception of Poetry which sees in it nothing but a play of fancy and fiction pleasing us with illusions and doing nothing more. Such a conception brings down Poetry to a position on the same level with painting and sculpture and is allowed no precedence of those arts. Even taking this opinion as true, the influences of Poetry would not be a small one. There may appear no immediate gain accruing from reading the descriptions of landscapes or any fictitious theme, from enjoying through poems the beauty of a flower, the notes of a cuckoo or the caperings of a butterfly, but if we look beneath the surface, we shall find in it an enormous gain. I quote here the words of Cardinal Newman as no clearer exposition of the point than his can be given. He says, "What is highmindedness, generous self-sacrifice, contempt of wealth, endurance of suffering, earnest striving after perfection but an improvement and transformation of that character of mind which we call romantic. To keep alive in an artificial and money loving age this romantic spirit that by transformation can become something so much beyond itself, is no mean merit." Thus we see that whatever view of Poetry we may adopt, we can never deny the high influence that Poetry exercises on mankind. It will be seen that I have spoken of only such poetic thoughts as are expressed in meter. But there are such thoughts and feelings in the field of prose as seem to stand on it on tip-toe as it were,

and only want wings of meter to fly into the airy region of Poetry, If they are included in Poetry, it will have no doubt a larger scope and greater importance, but even without them it would not fare ill. I conclude with this last remark that as Poetry has been existing from the earliest times, it will exist so long as man's heart will be capable of intense thoughts and feelings and it can be extinguished by no opposing force, not even by science and civilisation (as some think), which, at most, can change its cause but can never wholly check its flow.

A FIFTH YEAR STUDENT
PRESIDENCY COLLEGE CALCUTTA.

INDUSTRIAL AMERICA IN THE FIRST DECADE OF THE TWENTIETH CENTURY.

The first decade of the twentieth century saw the crowning period of industrial effort throughout the world. In the United States men took from the land, and the forests and mines more than twice as much raw material as they ever used in any decade before, and laid the finished product upon the markets of the world.

Fifty years ago, the manufactured products of the United States reached a value of $1,000,000,000. Twelve years ago they reached $10,000,000,000. In the year 1910 they totalled more than $20,000,000,000.

The tremendous growth of electrical power and the perfection of the gasoline engine mark the wonderful progress of this decade. Twelve years ago the use of electrical power was in its infancy. To-day, in America, there are more than thirty thousand companies and firms that are manufacturing electricity for one commercial purpose or another.

One of the most interesting developments of all in this field is the long distance transmission of the current. An electrical plant can now transmit its power over a distance of more than two hundred miles. The falls and rivers have also been turned to great advantage for supplying motor power to the factories.

The greatest development of manufactures has been in the direction of Iron and Steel, and the Textiles. Iron and steel products have more than doubled during the decade, and the value of Textiles has increased more than half. The value of automobiles has increased from $4,748,000 to $250,000,000, and that of electrical machinery from $92,434,000 to $185,000,000.

The rapid growth of these manufactures has checked the growth of foreign imports. America is now supplying the increasing demand of her growing population. The looms and the forges of Europe have gained but little, if at all, in the markets of America. The importation of manufactured silk, cotton, iron and steel, wool, and many other products, is to-day either smaller or about the same as it was in the year 1900.

On the other hand, the exports of the products from the American factories have increased during the same periods. The following figures show the chief American industrial exports (approximate) in

	1900	1909
	(In million dollars)	
Refined mineral oil—	66	99
Machinery—	55	67
Manufactures of cotton—	24	31
Manufactures of leather—	29	43
Agricultural implements—	(?)	25

All this great development of American manufactures has been made possible owing to the vast resources of the country—America has an abundance of raw materials in coal and iron, "the sinews of war" in the modern age. But this growth is no less due to two other chief factors—American business ability and the Protective Tariff. What Carnegie did in steel, Rockfeller in oil, Havemeyer in sugar, Westing house in electrical machinery, Armour in beef, Pullman in rail-road cars, a thousand other men are doing to-day in other industries.

Though at the present day there is a great controversy in America over the protective tariff, no body denies that it played a great part in fostering American industries. But for protection it is hardly conceivable if America could become such an industrial country to-day. Some branches of manufacturing industries have to-day passed beyond the stage of protection, and it is why a great many of the American people are now clamouring for the reduction of the tariff. But, none the less, the tariff had played its part in the development of American manufactures.

Now what does all this development of trade and manufactures mean to the American people? Has it increased the general well-being of the country? Are the mass of the population, the labourers, better fed and clothed to-day than in the past? The answer to these questions cannot but be in the affirmative. It is true that a social unrest now prevails all over the world—and so it does to a great extent in America. Strikes, and even the use of violent methods for better conditions prevail among the labouring classes. Cases of dynamite explosions are sometimes heard in different parts of the American union. There is undoubtedly a great disappointment and disaffection among some of the people to-day inspite of all the growing riches of the country. But this is due not to their worse condition, but to the fact that they want to better their condition still further. It is not so much the question of the production of wealth as that of distribution which is agitating not only America

but all the advanced states of the modern world. There are vast inequalities of wealth in America. The wants of the common people have greatly increased, and they are struggling to lessen the inequalities so that they may partake of a greater share of the wealth to meet their increasing wants. America is after all more prosperous to-day than she was ever before.

BIJOY KUMAR SARKAR.

Harvard University
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TOWN AND COUNTRY LIFE

Nothing temporal can be perfect and as such both town and country life have their advantages and disadvantages. I may be mistaken, but it seems to me that the advantages of country-life outweigh those of town-life.

Of course, under modern civilisation the town-life plays an important part in forming the character of the nation. In keeping pace with the modern advanced nations of the world town-life plays a part which has a value of its own. A big city is a centre of modern education in all its branches. We find as a rule that the leading men of any country are compelled to live in towns in order to discharge their different duties efficiently, be they administrative, educational or mercantile.

In a city there are many schools and colleges and they are generally provided with the best teachers in every branch of knowledge. A student can take up and learn whatever subject he has a special aptitude for. There are large libraries in a town where a student can study the best literary, scientific and philosophical works, and read and learn from the newspapers the current thoughts and actions of the outside world. Besides these, a student can also learn much from the architectural and engineering skill shown in the grand public and private buildings, extensive harbours, gigantic ships and wonderful docks. He can also expand his knowledge by visiting museums and zoological and botanic gardens. The sight of the "City of Palaces" seen in a clear moonlight from the top of the Ochterlony Monument or from the Howrah Bridge, baffles all description. The city is indeed the "nursery of all arts," the place where they grow and reach perfection under the warmth of patronage and popular encouragement. It is also the great emporium of all trade. One can also learn much from the busy and systematic life which goes on all around him in a great city. If money is not wanting almost everything is available in a large town.

But the other side of the shield is gloomy :—

"Here malice, rapine, accident conspire
And now a rabble rages, now a fire ;
Their ambush here relentless ruffians lay,
And here the fell attorney prowls for prey ;
Here falling houses thunder on your head,
And here a female atheist talks you dead."

Despite the earnest efforts of the municipal authorities we miss the delicious breezes of pure air that flow over hill and dale in the country. The very atmosphere of all the thoroughfares—streets, lanes and bye-lanes, is naturally stifling and noxious. From morning till evening and till late in the night, the din and bustle of a large town, the rumbling and rattling of carriages and motor and tram cars over the stony streets, distract a peaceful mind. When any epidemic breaks out, notwithstanding the precautions and steps taken by the municipal authorities and the Government, thousands die and panic prevails throughout the length and breadth of the town. I may here quote a few valuable lines of an immortal poet :—

"God made the country and man made the town,
What wonder then that health and virtue, gifts
That can alone make sweet the bitter draught
That life holds out to all, should most abound
And least be threatened in the fields and groves ?

India is mainly an agricultural country, nine-tenths of people live by agricultural work, and hence, she is bound to prefer country-life. In comparison with other countries of the world, India possesses very few towns worth the name, and a very small percentage of her sons live there. The villager lives a simple life and in a year of good harvest he has nothing to complain. The peasants and artisans know very little of the luxuries and comforts of urban life. They know that there are things higher than those of this world and strive to attain them in the way which their religion and traditions point out to them. In the village the different classes are quite aware of the fact that each is dependent on the other and that the interest of each class are bound up with those of the rest. Thus, there grows up strong sense of duty and solidarity which helps to preserve integrity of the village.

The present economic conditions of the country and the impact of western civilisation are working a change in the ideas and ideals of the villager and are making it impossible for him to retain his old simplicity of life. The time has come when every true son of India should pay serious attention to the village and adopt the best means to infuse into it the essence of the modern civilisation and still retaining its simplicity, honesty, truthfulness and other saving qualities.

"Solitude and silence in the country are a great strain, but if you enjoy them they are at least harmless which more than can be said of many activities. Such is not perhaps the temper in which continents are explored, battles won, empires extended and fortunes made. But, whatever concrete gain we make for ourselves must be taken from others and we ought to be very certain indeed of the meaning of this life and the nature of the world to which we all migrate before we immerse ourselves in self-contrived business. To be natural, to find our true life, to be independent of luxuries, not to be at the mercy of the prejudices and false ideals—that is the secret of life."

"Oh! friendly to the best pursuits of man,
Friendly to thought, to virtue and to peace,
Domestic life in rural pleasures past!"

If you at all care to form a correct idea of the character of a nation you cannot concentrate your observations on the metropolis only. You must go forth into the country, sojourn in villages and hamlets, saunter along the green lawns and visit castles and cottages; you must wander through deep verdure of hedge-rows and the shadow of the trees and green lanes, you must attend rural fairs and festivals and whole-heartedly mix with all their habits and manners.

A populous city naturally makes men selfish. In their accidental and temporary meeting they can only deal briefly in commonplaces; you cannot have any correct idea of the populace, they present only the cold superficies of character.

It is in the country that the natural feelings of a man have full play; it is here that he gladly breaks up the "cold formalities and negative civilities of town'. He is no longer so serious and reserved as he was in the town, but becomes joyous and frank. Every requisite of life whether 'studious retirement, tasteful gratification or rural exercises' are not wanting in his country-place.

Under the present convenient arrangements of railways and steamships, telegraphs and post-offices, you may enjoy many advantages of a town-life if you will, even when living in your country-seat. It has been the reigning but, I must say, unfortunate fashion of the modern times for the blessed sons of "Lakshmi," I mean wealthy men of our country, to leave their villages and to live a luxurious and expensive life in the town for a greater part of the year. Their palatial buildings in the country become a haunted-house and there reign pigeons and snakes, owls and jackals. Of course, those who can afford may live in the town to satisfy their own wants and selfish desires; but then who will take interest and devise means for the improvement of the village? If the wealthy and the educated become very anxious to enjoy the pleasures of a town life, the ultimate result will be on the one hand, the wealthy will be poor and the educated will lose the charm of social life, the devotion and affection of their neighbours and the simplicity of a rural life; on the other, the poor villagers without any help and guide will remain in eternal darkness of ignorance, the peaceful village will be the abode of cholera and malaria and permanent panic will prevail everywhere.

Friends! do not build castles in the air, do not think that the Government will provide or is in a position to provide all, nay a satisfactory percentage of you, with Government posts; and if you get a post, say, of Rs. 50 or 100 in the town, you will hardly be able to make both ends meet. And how many will join the bar and be medical practitioners? Say, these departments will provide 30 p. c., at a maximum and what will be the condition of the remaining 70 p. c.? It is now high time to think of it seriously and try to solve this all-important problem.

Well, town-life will not help us much in solving the problem. We should always bear in mind that the educated are in a hopeless minority in the countless millions of our motherland, who are still in the darkness of ignorance. Ignorance and illeteracy are the great obstacles in the path of progress and these can only be removed by spreading proper education among the masses.

Brethren! finish your university career. Do not increase the number of the crowd at the office of the "Bara Shaheb" or "Bara Babu" in Calcutta or Dacca, Patna or Gaya. At once go forth into your country. Do not think it beneath your dignity to mix with your poor peasant neighbours. Remember what Goldsmith said about a contented peasantry being their country's pride. Don't forget that they are the backbones of your national life. Spread healthy education among them, make them sufficiently strong so that you may stand shoulder to shoulder to fight out the constitutional battles of your national life. Improve the sanitary condition of the village, establish schools and gymnasiums, revive your old decayed industries, take to agricultural pursuits, establish Arbitration Courts to prevent lavish expenditure of money for trifling matters by the litigious public. Organise your village communities and societies on a sound footing and the result will come as a matter of course—peace, happiness and prosperity will prevail throughout the length and breadth of the land.

Always bear in mind that the residence of the people of fortune and refinement infuses a degree of taste and elegance in rural economy and comes down to the lowest class. The fondness of rural life among the wealthy and the educated has a great and beneficial effect upon the national character.

"In rural occupation, there is nothing mean and debasing. It leads a man forth among scenes of natural grandeur and beauty, it leaves him to the working of his own mind operated upon by the purest and most elevating of external influences. Such a man may be simple and rough, but he cannot be vulgar. The man of refinement, therefore, finds nothing revolting in an intercouse with the lower order of rural life Indeed, the very amusements of the country bring men more and more together and the hound and horn blend all feelings into harmony."

The great charm of rural scenery creates naturally a moral and religious feeling in the minds of the people. It is associated in the mind with "ideas of order, of quiet, of sober, of well-established principles, of hoary usage and revered custom." Everything seems to be of peaceful and regular growth.

Nature presents a magnificent panorama of beauty. The green meadows, the vast fields covered with the golden hue of ripe corn; the widespread groves of mango, palm and cocoanut trees; the spreading and shady peepul and banyan trees on the banks of the silvery rivulet, where the shepherds watching their flocks graze on the meadows, enjoy the gentle breeze and sing to the highest pitch of their melodious voice; the bathing-"ghats," where the innocent lads and simple unostentatious villagers assemble and disport themselves; and where the young maidens, with pitchers on their waists, come to draw waters—all these really make up a sight for gods to behold!

A simple villager lives a placid life in a beautiful village, far, far away from the bustle, anxiety and wickedness of a great town.

In conclusion, I cannot avoid the temptation of a quotation from the valuable lines of a well-known writer :—

"If cultivated life is the life of worth and virtue these were to be found in the country, not in proud, gay, gain-devoted cities. Country-life is the life of virtue, city life is the life of vice, lust, wantonness, gluttony and excess of all kinds. Country-life secures health, city life leading to pampered luxury, breeds sloth and idleness, soon exhausts the physical system and makes chariots and sedan chairs an indispensable concomitant of an weary existence. Country life is the enjoyment of sweet shady groves, the genial moonlight, the delightful warbling of birds; city life is the life of pomp and splendour with music that is inharmonious and that causes public mischief."

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REVEIWS
And Minor Notices

GEORGE SYDNEY ARUNDALE—His life and work at the Central Hindu College, Benares. Edited by B. SANJIVA RAO, B. A. (*Cantab*), Professor of Mathematics, C. H. C.

This book, as the author declares in the preface, is the outcome of a general feeling on the part of those who, whether as teachers or students have learnt to know and love the Principal of the Central Hindu College at Benares, that something should be done, now that he is leaving India for some years, to place on record their own sentiments towards him and the character of the work which he has done in that Institution. The Editor has tried to present a complete picture by securing articles written from different points of view. We cannot but quote in full the foreword to the book by Mrs. Annie Besant.

"I have been asked to prefix to this book a few words of introduction, and I gladly seize the opportunity of paying my tribute also to the generous and lofty character which has inspired it. Among the many Theosophists who have sacrificed life and home for the dear service of India, none, I think, has met with more misunderstanding and more ingratitude than George S. Arundale. It is therefore well that those whom he has served in the Central Hindu College should bear testimony to what they owe him.

"That he is followed by the staff and the students with love, and by the majority with passionate reverence and loyalty, is patent to all; and this power of leadership, and of winning love and trust are, as is so often the case, the reasons for dislike and distrust among those who do not share that power. The commonplace is that which never gives offence; great natures arouse great love and great hatred in those around them.

"As a successful Principal, I think that George Arundale's name will shine in the annals of education with those of Dr. Arnold of Rugby and Dr. Vaughan of Harrow. He has not yet reached middle age, though he lays down for a while the sceptre that he has wielded so well, and his record is not half writ.

"It is said in this book that I have had the happiness of stimulating this life to service. If so it be, great is the reward. For among my many sons and pupils there is none of whom a mother and teacher may feel more proud than of George S. Arundale."—ANNIE BESANT, *President of the Board of Trustees Central Hindu College.*

THE ENGLISH WORKS OF RAJA RAM MOHAN RAY, PUBLISHED BY THE PANINI OFFICE, BAHADURGANJ, ALLAHABAD. Rs 5.

The present work of 978 pages pretends to be an exhaustive collection of the English writings of the great Raja. It contains all the writings which had been edited by Mr. Jogendra Chander Ghose, and compiled and published by Mr. Eshan Chander Bose, together with some additional letters and an English translation of *Tuhfatul Muwahhaddin.*

The collection is preceded by a memoir and an introduction, dealing at length with the writings of the great religious and social reformer of Bengal; and a valuable index to the end helps us to any part of the big volume, as we like. The collection is beautifully printed on good paper; and we have not been able to find out one single misprint or any defect of printing, as far as we have gone through. It is beautifully and strongly bound in cloth, and leaves nothing to be desired in the matter of its get-up.

PRIVATE JOURNALS OF THE MARQUESS OF HASTINGS *Published by Panini office, Bahadurganj, Allahabad.*

"There is nothing a man enjoys more than getting behind the scene". The journals of Lord Moira are far more interesting than many romances. We find the eminent man at home there. Students of Indian History will find in it, much that is interesting and useful. This work too, like all publications of Panini office, is decently got up.

SCIENCE NOTES

AND OTHER INTERESTING MATTER

IN 1885 the average life was 34 years; in 1850 it was 32 years. According to Dr. Elie Metchnikoff of Paris it was only 30 years in 1790. This would seem to mean that in 122 years greater general knowledge of hygiene, combined with discoveries and improvements in medicine and surgery, has added 8.8 years to the span of life, which is 38.8 to-day.

The Age of Man. Is Life growing longer?

But, extraordinary as it may seem, according to a paper by Mr. Arthur Benington, the statistics of insurance companies do not fully bear out the statement that human life is longer than it used to be.

The actuaries and medical officers of some foreign life insurance companies are busy now working out a new mortality table. It is not yet finished, but preliminary reports of it have shown that while the mortality has been substantially lowered among insured lives before the age of 50, it has actually increased after 50 years.

OF the various experiments made during the last year in Bengal the most important to this province are those connected with the cultivation of jute. Cross fertilisation experiments conducted by the Fibre Expert, Mr. Finlow, in collaboration with the Economic Reporter to the Government of India, have shown that jute is normally self-fertilised, and consequently that improved varieties can be introduced even on a small scale without risk of being swamped by chance crossing with inferior varieties. Mr. Finlow's classification of different races has established the fact that there are one or two varieties of jute, which, while taller than most other races are decidedly superior in the quality of their fibre. The problem is being followed up, and it is hoped that valuable result will eventually be obtained. The Agricultural Chemist, Mr. Meggitt continued his interesting work in connection with the soil of the Dacca farm and his crop analysis experiments, with the object of ascertaining how crop composition is affected by manuring. It is too early yet for definite conclusions to be drawn from these experiments. In connection with the work done in Botany, Entomology and Mycology the Governor in Council is glad to acknowledge the assistance rendered by the officers of the Pusa Institute.

Cultivation of Jute

Sir William F. Barrett contributes an interesting article to "The Quest" on "Telepathy and the Spiritual Significance of Nature." He argues that beneath and beyond all external causes in evolution there is "some inscrutable direction and selective force ever at work within the organism." Evolution in Nature tends towards an upward and expanding life, whereas forces which are purely mechanical and chemical tend to simpler aggregations, to degradation, not development.

Spiritual Significance of Nature

"A power over imminent, operative and transcendent appears to be revealing itself in the manifold forms of life." Professor Barrett says that the most reverent scientific thought is surely tending towards Swedenborg's view that the Deity is in each single thing. The difficulty of conceiving the interaction of mind aud matter outside nerve structure is faced, and the writer maintains that the well-established fact of telepathy largely causes the difficulty to disappear.

SPORTING

Calcutta University (?) Sports, Monday 13th January 1913.

This Inter Collegiate athletic sports meeting met for the second time on the grounds of the Calcutta Football club on the 13th January 1913. The meeting was a success. The gathering was large, mainly of students.

The Volunteer and Town Band played excellent music at intervals and the various events passed off without a hitch. There was a large number of handsome prizes of various description kindly offered by the local firms who have all along supported the interests of sports in Calcutta.

The Hon. Sir F. W. Duke presided and Lady Duke very kindly distributed the prizes to the successful competitors and with the usual cheers the meeting came to a close.

A silver cup was presented in 1912 by the Maharajah of Nattore, in commemoration of their Imperial Majesties' visit to Calcutta, as a challenge trophy, to be held for one year by the college obtaining the greatest number of points at the annual University Sports. It was won last year by the Medical College. Only the regular athletic events count toward the Nattore Coronation Cup. A student who wins an event obtains 12 points for his college; if he obtains second place, 7 points; third place, 4 points. In the relay race the first, second and third colleges take points in the same ratio; in the tug of war, the winning college takes 12 points; the college defeated in the final, 7 points: the defeated semi-finalists pull against each other for third place, which counts 4 points.

A special prize is given to the student obtaining most points, towards this prize all the events count; first, second and third in any event taking points in the same ratio as for the Nattore cup. For this special prize the relay race and the tug of war do not count.

The executive committee desires to record its appreciation of the recognition accorded to the University Sports by the donation of Rs. 200 made by the Syndicate of the University towards the expense of the meeting.

The Nattore cup was retained by the Medical College. Leo Braen of the Medical College received the cup.

CUTTINGS

INDIANS OF TO-DAY.
Rai Bahadur Sris Chandra Basu.

The subject of this sketch is one of the most eminent Indians of our time. His many qualities of head and heart are inherited from his father, Babu Shama Charan Basu, who soon after the annexation of the Punjab in 1846 came to Lahore and, after filling the Head Mastership of the school which was started under the auspices of the American Mission there, entered Government service.

The Mutiny of 1857 brought its troubles to the Educational Department with the rest of the administration. Babu Shama Charan proved equal to the occasion and his conduct was appreciated by the Punjab authorities. In a letter No. 394, dated 30th July 1858, the Financial Commissioner wrote to the Secretary to the Chief Commissioner, Punjab :— "I can corroborate also to a great extent, from my personal knowledge, the high praise which Mr. Arnold Director of Public Instruction bestows on the head of his English office, Babu Shama Charan Basu, and was much struck with the quiet and steady manner in which he carried on the duties of his office during the period of excitement in May and June 1857, when it was struggling with great difficulties, and had twice to be removed owing to the place occupied by it being required for other purposes."

The Lahore Government College was established in 1864 and Dr. Leitner was its first Principal. The Anjuman-i-Punjab was established chiefly through the exertions of Dr. Leitner and Babu Shama Charan. This Society was somewhat on the model of the Asiatic Society of Bengal. At its meetings, interesting papers were read and discussed. The proceedings of the Anjuman show the important subjects which Babu Shama Charan discussed before it.

Sir Donald McLeod succeeded Sir Robert Montgomery as Lieutenant-Governor of the Punjab. An Oriental scholar himself, he was in favour of orientalising the education in that Province. So he wrote a letter to the Director of Public Instruction on the subject. Major Fuller naturally consulted his assistant who had been brought up in Calcutta under the famous Dr. Duff, and was well acquainted with the controversy of Occidentalists and Orientalists. By the advice of Babu Shama Charan, Major Fuller forwarded the Lieutenant-Governor's letter to the Anjuman i-Punjab for consideration. It seems that Babu Sama Charan on the letter coming up for consideration made the suggestion to the Anjuman to take steps to encourage the cultivation of vernacular literature which the Educational Department could very well undertake. In the course of a leading article in the *Tribune* of Lahore, dated the 5th December, 1885, it was stated :—

"The Punjab University was the creation of almost an accident. A meeting was one fine day held in the Sikhsa Sabha Hall somewhere about the beginning of 1865 and there was some conversation, about Oriental education. Babu Shama Charan Bose, in course of the conversation, suggested the formation of an institution which should foster the cultivation of Western as well as Eastern learning. The keen foresight of Dr. Leitner looked through the suggestion and he

eagerly caught hold of it as capable of indefinite expansion. A scheme was shortly after drawn up, matured and the proposal of a University was set afloat." So the credit of suggesting the establishment of the Punjab University belongs to Babu Shama Charan Bose, who did not see it established as he died not long afterwards at the early age of forty.

Rai Bahadur Srish Chandra Basu was about six years old—for he was born on the 20th March 1861—when his father died. His education, therefore, had to be looked after by his mother. In his boyhood he gave proof of his remarkable intelligence and his academic career was a very brilliant one. He passed the Entrance Examination of the Calcutta University held in December 1876 with great distinction, standing first in the Punjab and third in order of merit in the University and was awarded a gold medal, books worth 50 rupees and the first scholarship in the province. He prosecuted his further studies in the Lahore Government College, from which he passed the First Examination in Arts in the 1st division in 1878, standing again first in the province. He took his B A. degree in the first division, in January 1881, and then joined the Training College for Teachers which had been then recently established at Lahore. He passed the Final Examination—an examination corresponding to the L. T. Examination of our universities in these days—in the first division in 1882 and was appointed officiating second master of the Lahore District High School, from which he had passed the Entrance Examination of the Calcutta University. While serving as a teacher in this school, he studied law and appeared in January 1883 in the Vakilship Examination of the Allahabad High Court, which he passed with distinction.

Early in 1885, before the result of the Law Examination was out, there was established a Model School at Lahore, in connection with the Training College of which he was appointed Head Master. His success as a teacher, and the respect shown to him by his pupils pointed him out as the fit person for appointment to this prize post after only a few months' service in the Educational Department. He was the first Head Master of the first model school in India.

When the result of his law examination was out, he left the Educational Department and came to Meerut to practice his profession. After about three years' practice in the District Law Courts there, he came to Allahabad in 1886, to join the High Court bar. In his students' days, Sris Chandra had learnt Mr. Pitman's system of shorthand and phonography which stood him in good stead at this time, for it was due to it that he was apppointed Judgment Reporter in the High Court. As a shorthand reporter, Rai Bahadur Sris Chandra was, when he was in practice, singularly adept. Regarding his efficiency in shorthand writing Mrs. Annie Besant bears the following testimony:—"I am indebted to Babu Sris Chandra Basu, Munsif of Benares, for the wonderfully accurate report which he most kindly took of the discourses. I have been reported by the best London men, but have never sent a report to the press with less correction than that supplied by my amateur friend."

Babu Sris Chandra always has tried to master the subject he has taken in hand. When he made up his mind to master Hindu Law, translations in English of a few Law books did not satisfiy him. He turned to the original authorities to study the subject. But the difficulty that he had to encounter was his ignorance of Sanskrit. When he settled down in practice he commenced its study. He found out for himself what the late Right Hon. Professor Max Muller wrote to him many years afterwards, namely that "no one knows Sanskrit who does not know Panini."

He took, therefore, to the study of Panini. The difficulty of Panini is well known to all Sanskrit scholars Students of the subject at Benares spend a dozen or more years in mastering it. In 1891, while still practising at the Allahabad High Court, he published the first chapter of the first book of Panini with its English translation and a commentary and copious explanatory notes. The publication was welcomed by leading sanskrit scholars all over the world. Professor Max Muller who had then grown grey in the study Sanskrit wrote to the author:—

"From what I have seen for it, it will be a very useful work. What should I have given for such a work forty years ago when I puzzled my head over Panini's Sutras and commentaries."

It is not necessary to give the opinions of other well known Sanskrit scholars of Europe and America. But he found that he could not complete the self-imposed task satisfactorily, as the practice of his profession stood in his way of doing so. Either he should give up Panini or the practice of law. The edition of Panini, which he was bringing out, was meant to pave the way not only to the study of Hindu Law but of all the higher branches of Sanskrit learning. Remembering that no great cause has ever been achieved without sacrifice, he gave up the practice of his profession and entered the Provincial Judicial Service to which the Government was pleased to appoint him at once as a second grade Munsiff and posted him to Ghazipur. He joined the service on the 11th April, 1892.

The publication of his translation of Panini was delayed by many causes over which he had no control. He did not find that leisure in the service in the expectation of which he had given up the profession. At Ghazipur he had to try a very complicated case of Mahomedan Law. Can the Wahabis pray in the same mosque with the Sunnis? That was the dispute between the litigious parties who sought justice at his hands. Extensive reading of almost the whole literature of of Mahomedan jurisprudence in the original Arabic—for which he had to get books published outside India, in Mahomedan countries such as Egypt and Persia, took him nearly a year to decide this important case. It is a decision which is of great value to Indian lawyers, for it has settled, once for all, a very moot point of Mahomedan Law.

In the beginning of 1896 he was transferred to Benares and here he saw more prospect of completing the translation and publication of Panini's Grammar. The work was completed towards the close of the year 1898. Professor Max Muller sent his congratulations to the author in the warmest language. He wrote:—"Allow me to congratulate you on your successful termination of Panini's Grammar. It was a great undertaking, and you have done your part of the work admirably. I say once more, what should I have given for such an edition of Panini when I was young, and how much time it would have saved me and others. Whatever

people may say, no one knows Sanskrit who does not know Panini."

A portion of this work has been prescribed as a text-book in the M. A. Examination of the London University. It is the only instance of an Indian author's work finding a place in the curriculum of studies in the highest examination of an European University.

The Siddhanta Kaumudi of Bhattoji Dikshita in which Panini's aphorisms are rationally arranged, is studied by some students of Sanskrit almost all over India. The translation of this important work was taken in hand by the late Professor Horace Hayman Wilson, the first Boden Professor of Sanskrit at Oxford, and it was advertised by the Oriental Translation Fund as under preparation more than three quarters of a century ago. But it was never published. Rai Bahadur Sris Chandra Basu, by completing the translation of this important work, has placed Sanskritists under great obligations to him.

The study of Hindu Law not only demands a very efficient knowledge of Sanskrit Grammar, but also of Hindu Philosophy, Upanishads, the Vedas, the Puranas and even the Tantras. How carefully Rai Bahadur Srish Chandra Basu has studied these different branches of Sanskrit learning is evident from his "Catechism of Hinduism" which was published in 1899. The "Daily Practice of the Hindus" from his pen also is an evidence of his mastery of Hindu philosophy and learning.

At his suggestion was started the important and well-known series of the Sacred Books of the Hindus by the Panini Office of Allahabad and to this series he has contributed the translations of Isa, Kena, Katha, Prasna, Mundaka, Mandukya and Chandogya Upanishads, with the Commentary of Madhva, the Vedanta Sutra with the Commentary of Baladeva and two sections of Yajna-Valka Smriti with the Commentary known as Mitakshara and notes from the gloss Balambhatti. All these works have been very favourably spoken of by competent Sanskrit scholars of the East and the West.

Although Sris Chandra Basu's great ambition was to achieve a thorough mastery of Hindu Law in which, as shown above, he has remarkably succeeded the study of religions has been very dear to him. He has devoted much of his time to the comparative study of religions. Like the great Raja Ram Moham Roy, he has studied the religious scriptures of principal faiths of India from their original sources. A thorough master of Sanskrit and Arabic, the study of the Sacred Books of the Hindus and Mahomedans in the original did not present any difficulty to him. But he had to learn Hebrew and Greek to understand the Old and new Testaments of the Christians.

His creditable knowledge of Latin, French and German shows the interest he has also taken in comparative philology.

Serious scholars are generally known to be devoid of what is called "wit and humour." But his "Folk Tales of Hindusthan" shows how cleverly he can wield his pen for writing stories interesting and entertaining to the old and the young alike. These stories have been published by him under the pseudonym of *Shaik Chilli*. In reveiwing them, the late Mr. Stead wrote in the *Review of Reviews* for October, 1907 :—"Stories of a type that recall the delightful romances of the Arabian Nights." We may safely predict that like the Arabian Nights entertainments, these stories will be eagerly read in ages to come by all classes of people. These have already been translated into Bengali and their translations in some other vernaculars are in course of preparation.

Rai Bahadur Sris Chandra Basu has also done a good deal in the cause of education. While practising his profession at Allahabad, he found that there was no school for the education of Indian girls there. The only school which existed at that time was conducted by the Zenana Mission whose aim was conversion. A girls' school was urgently needed and he worked hard to establish it. It was opened on the New Year's Day of 1888. It was the first school of its kind in Allahabad and is still in existence.

He was Sub-judge of Bareilly when His Majesty King-Emperor Edward VII breathed his last. As a fitting memorial to our late beloved Sovereign, he suggested to the public the establishment of a school bearing the Emperor's name. He has been instrumental in bringing this school into existence.

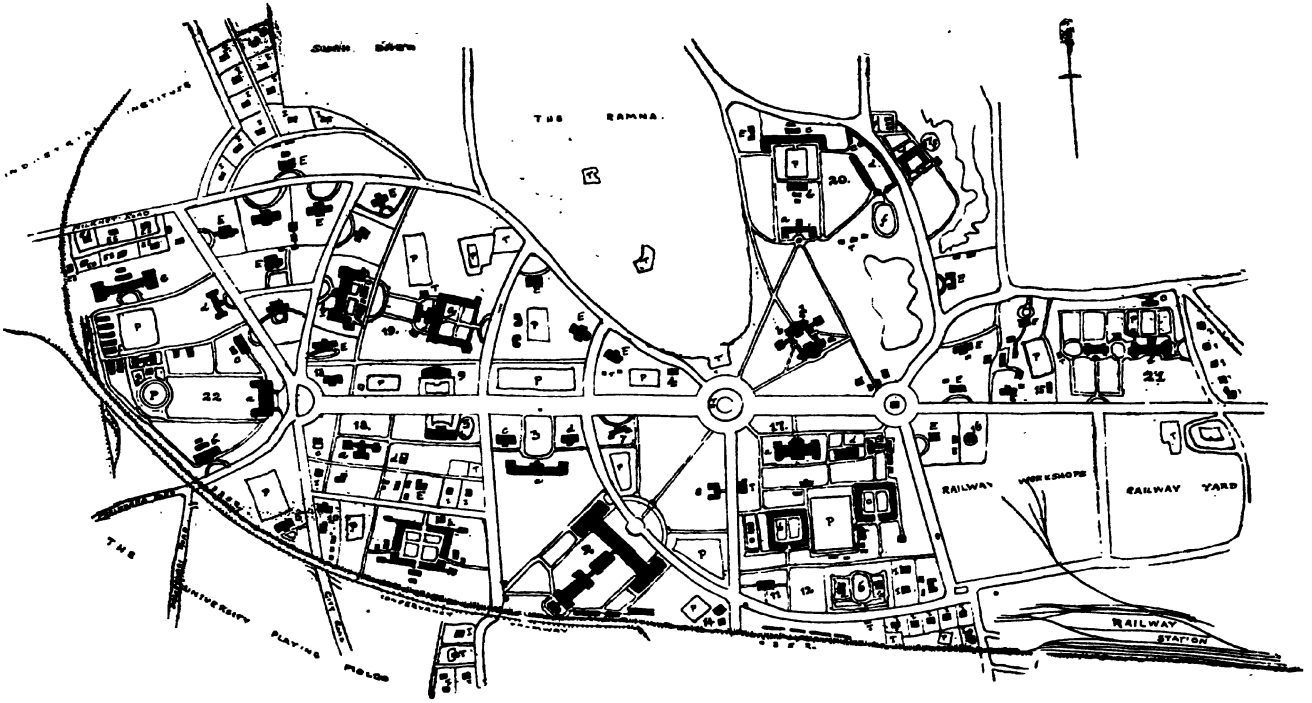
Sris Chandra Basu takes great interest in the Central Hindu College, of which he has been a trustee and a member of the managing committee ever since its foundation, and his connection with the Theosophical Society dates from 1880.

His "Easy Introduction to Yoga Philosophy," "Shiva Samhita," "Gheranda Samhita," "Three Truths of Theosophy," "Compass of Truth," and Introduction to Mr. Ram Prasad's translation of Yoga Sutras of Patanjali, and Mr. Ernest Wood's translation of the Garuda Purana show how his active mind is in eager pursuit of realising the true nature of the higher self.

Public honours and distinctions do not, as a rule, come to those who do not seek for them. Yet he has been their recipient without in any way soliciting for them. In 1900, he was nominated by Government a Fellow of the Allahabad University. In recognition of his services as an able judicial officer, he was created a Rai Bahadur by the Government of India on the Coronation Day of His Most Gracious Majesty the KingEmperor George V. He is also a recipient of the Coronation Durbar Medal. For a man of his retiring nature, a scholar and thinker, these distinctions show the esteem in which he is held by the Government whom he and his family have most loyally served for two generations.—*The Pioneer*, Dec. 22, 1912.

CAMPUS OF THE PROPOSED DACCA UNIVERSITY

APPROX. SCALE 1155 ft = 1 inch.



REFERENCES.

:nate House, (a) Senate House, (b) Vice-
:hancellor's Residence.
niversity Buildings and New College.
niversity Laboratories (a) (b) (c) (d).
stronomical Observatory.
natomical Laboratory.
listorical Museum (a) Gate House, (b) Baradori
Museum. 7. Professors' Club 8. Union.
atural History Museum. 10. Hospital.
Gymnasium. 12. Drill Ground. 13. Works Office.

14. Booksellers' and Provision Dealers' Shops.
15. Power House of Electric Supply Co.
16. Tower of University Water Works
17. Dacca College, (a) Main Building, (b) (c) (d) (e), (f) First, Second, Third, Fourth, Fifth Hostel.
18. Jagannath College, (a) Main Building, (b) Second Hostel, (c) Principal's House, (d) Professors House
19. Muhammadan College, (a) Main Building (b) New Extension.
20. College of Well to do Class, (a) College,

20 (b) Muhammadan Hostels, (c) Hindu H
(d) Stables, (e) Servants' Quarters, (f) I
School.
21. College for Women, (a) College, (b) S
(c) House of Lady Principal.
22. College and School of Engineering, (a) C
(b) College Hostel, (c) College Hoste
European Students, (d) School, (e) S
Hostel, (f) Workshops, (g) Demonstration
and Power House.

Tanks. T—Temples Tombs and Mosqids E.—Houses for Officers of P.E.S. I.—Houses for Officers of P.E.S. and S.E.S. E. S.—Houses for European Subordi

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AND PROGRESS OF INDIA

CALCUTTA, SATURDAY, FEBRUARY 15, 1913

Comments on the Report of the Dacca University Committee

As intimated in our January No. 1 issue we are in a position partly to fulfil our promise of placing before the Government and the Public, criticisms and suggestions on the Report of the Dacca University Committee. We are sorry the time placed at our disposal was not sufficient for the minute and careful examination of every item in the report. However we would be in a position to introduce further suggestive articles on the scheme from time to time in future issues. We are glad to present our readers as a frontispiece to this issue a miniature plan of the proposed Dacca University.

* * *

Female Education in Bengal

A Government resolution says that it is of great importance for the future of the Bengal Presidency that a well-considered and progressive policy for the education of Indian girls should be framed and afterwards systematically and energetically carried out. The methods and practice of the two portions of the province, reunited on the 1st of April last, differ at present in some important respects. The best features of each system require to be carefully selected and the experience of the past to be supplemented by a review of recent developments and changes in conditions. The important and difficult task can be successfully accomplished only with the considered advice and active co-operative of persons who are employed or are otherwise interested in the education of girls. The Government of Bengal have decided, with a view to secure this co-operation and advice, to appoint a committee, which, after considering the subject in all its main bearings will frame a general scheme as a basis for future progress. His Excellency in Council further proposes that the members shall ultimately form a standing committee which, like the similar committee which formerly existed in Eastern Bengal and Assam, will meet annually for the purpose of advising the Government on

progress of the scheme and on its modification and developement

The composition of the Committee will be as follows:—Mr. R. Nathan, President; the Director of Public Instruction, Bengal; the Hon'ble Mr. J. G. Cumming; the Hon'ble Nawab Saiyid Nawabally Chaudhuri, Khan Bahadhur; the Hon'ble Dr. D. P. Sarbadhikary; the Hon'ble Babu Ananda Chundra Roy; Mr. P. K. Sen, Bar at-Law; Khan Bahadhur Ashanullah, Inspector of Schools, Chittagong Division; the two Inspectresses of Schools; the Lady Principal, Bethune College, Calcutta; the Lady Principal Eden Girls' School, Dacca; the Lady Principal, Government Training School, Calcutta; Sister Mary Victoria, Lady Principal, Diocesan Girls' School, Calcutta; Miss Dyson, Lady Principal, United Mission Training College, Ballygunge, Calcutta; Miss Owles, Lady Principal, Training College, Krishnagar; Miss Williamson; Miss Moore; Mrs. J. C. Bose; Mrs. P. B. Mukherji; Mrs. S. C. Mukherji; Mrs. P. Chatterji.

Members other than those appointed ex officio will hold office for three years and will be eligible for renomination. One-third of the members first appointed will be selected for retirement by ballot at the end of each of the fourth, fifth and sixth years.

Popular Education in Madras

THE Government India have 25,000 for the promotion of popular education in Madras presidency.

The Council of Native Education, Madras, formulated a scheme for the spread of elementary education in this Presidency and submitted to the Government certain proposals in furtherance of the scheme together with the replies received by the Council of Native Education from the District Taluk Boards and mofussil Municipalities. The Government, in reply, state that while appreciating the interest that while appreciating the interest taken by the Council in the matter they consider that its proposals besides being premature are too ambitious, having regard to the magnitude of the issues involved and to the limited nature of agencies at the disposal of Council. On these grounds they regret that they do not feel justified in making the grant applied for. They will be glad to avail themselves of the advice and assistance of the Council in educational matters when suitable opportunities occur.

State Sanskrit Scholarships 1913

Two scholarships for the scientific study of Sanskrit in Europe will be awarded in the year 1913. The value of each Scholarship is £150 per annum and it will be tenable for two years. The application of any candidates from Bengal should be submitted with the required particulars to the Director of Public Instruction Bengal not later than the 26th of February 1913. No candidate will be considered who is not possessed of high qualifications and who is not a native of Bengal.

Congress of Historical Studies

A press *communique* states that the Secretary or State has appointed Sir William Lee Warner, G. C. S. I. to represent India at the next international Congress of Historical Studies, which is to be held in London during April 1913.

* * *

Dr. Bose's Lecture on Invisible Light

DR. J. C. BOSE on January 30th delivered a lecture on *Invisible Light* at the Hall of the Calcutta University Institute. The chair was occupied by Mr. W. R. Gourlay, Private Secretary to his Excellency the Goveruor and there was a large gathering of distinguished visitors which included the Hon. Mr. Gokhale, the Hon. Mr. Ramsay Macdonald, Sir Richard Harington, Mr. Justice Holmwood, Mr. Justice Chaudhuri, the Hon. Mr. P. C Lyon, Sir Guru Das Banerjee. Dr. Bose in deli vering the lecture first showed how on account o the imperfection of our senses we fail to detec various forces which play around us. We are not only deaf, but practically blind. While we perceive eleven octaves of sound, we can see only a single octave of ether vibration, which is called "light." In order to detect the invisible light a special detector has to be devised. Prof. Bose then showed his artificial retina, previously exhibited at the Royal Institution, which not only detects luminous radiation, but also invisible lights in the infra-red and ulrta-violet regions. In the course of his remarks illustrating the nature of electric or Hertzian waves, which gave rise to the invisible radiation, he proceeded to enumerate some of the conditions necessary for experimenting with them and to describe the apparatus he had invented for the purpose. Hertz had used waves which were about 10 metres in length. It was impossible to attempt any quantitative measurement of their optical properties, on account of the large waves curling round corners. The lecturer hadsucceeded in producing the shortest waves, with a frequency of 50,000 millions of vibrations per second, the particular invisible radiation being only 13 octaves below visible light. His generator produced the small sharp beam which alone could be employed for quantitative measurements. By means of this apparatus experiments on electric radiation could be carried on with ordinary light. Dr. Bose then performed experiments illustrative of the properties possessed in common by light waves and electric waves. He exhibited the power of selective absorp-

tion of electric rays displayed by many substances, pointing out that while water stopped them, pitch, coal-tar, and others were quite transparent to them. He showed how the rays were reflected by mirrors, obeying the same laws as light. The hand of the experimenter was found to be a good reflector the rays rebounding after impact. Electric rays also undergo reflerction and then Dr Bose described an ingenious method he had devised by which the index of reflection of numerous opaque substances could be obtained with the highest exactitude. In conclusion he gave an account of his discovery of the polarisation of electric rays by crystals. He showed that these polarised the electric rays just as they did ordinary light. He further proved that substances under stress and strain could produce double refraction in them, as did glass under the same conditions in light. Tourmaline was useless for electric rays; but a lock of human hair was extraordinarily efficient. An ordinary book was shown to exhibit selective absorption in a striking manner. Thus, observed the lecturer, while the Calcutta University Calendar was, usually, very opaque, it became quite transparent when held in a particular direction as regards the impinging ray.

A first class Bengali Journal

We congratulate our contemporaries, the Editorial Staff of *Grihastha* a Bengali monthly devoted to Hindu Culture and national life on their latest issue. Such issues are sure to maintain its position as a journal of the first rank. We notice in it the contributions of several of our celebrated authors and men of letters like Prof. R. K. Mookerji, M. A. Pundit Bidhusekhar Sastri, and Prof. B. C. Dev, M. A. The paper on *Madhyamik Philosophy* is the work of deep original research, and the subject has been treated perhaps for the first time by an Indian Scholar whether in English or in vernaculars. We would like to see it in English. The paper on what man has done in Indian history is eminently suggestive of hope is that may be profitably taken up by Indian research scholars. As opposed to the theory that man in India has always been governed by the influences of Nature and the physical energies the writer hold that the reverse is no less true and corroborated by facts of Indian history—that Indian manhood developed itself by surmounting the obstacles presented by the geographical features of India.

The issue begins with a motto from the philosophic work of Bankim Chandra entitled *Anusilan*, and contains besides the original papers, a poem and a review, some very important topics for discussions on political, sanitary, literary, educational and social subjects. We are glad to notice the all-India character of these notes and comments. There is an attempt to enlighten the Bengali public with what is being done in various parts of India in literature, research, politics and education. The congress and conferences at Bankipore, Calcutta and Lucknow, the social service League of Bombay, the Sahitya Parishat of Dacca, the Panini office of Allahabad, the Vaishnav conference of Burdwan invited by Maharaja Cassimbazar and the Ladies conference at Rangpur have been noticed and commented upon. And there is a powerful appeal for the study of Hindi by educated Bengalees.

* * *

Begum of Bhopal's charities

The charities of the Begum of Bhopal are almost unexampled. Her Highness has just made a fresh permanent grant of Rs. 500 a month to the Aligarh College over and above one lakh she recently paid in cash to the University fund. She already pays Rs. 1,400 a year to the Aligarh Girl's School and Rs. 200 a month to the funds of the Mahomedan Educational Conference, Aligarh.

* * *

Calcutta Mathematical Society

An ordinary meeting of the Calcutta Mathematical Society was held at the Senate House on the 30th January at 6-15 P. M. The Hon'ble Justice Sir Ashutosh Mookerjee was in the chair. An unexpectedly large number of members was present at the meeting. The President moved a resolution on the loss to the Mathematical world caused by the death of Sir George Darwin who was an Honorary Member of the Society. Rai Bahadur G. N Chakravarti M. A. and Mr. Mahendra Nath Dutt, B. E. were elected as members. Dr. A. R. Forsyth, F. R. S. read a paper on "Minimal Surfaces", in which he gave a brief account of the applications of calculus of variations to minimal surfaces by Lagrange, Cauchy, Weirstrasse and Schwarz and stated briefly the results of his own recent researches in the same subject.

Annual Meeting of the Asiatic Society of Bengal

The annual meeting of the Asiatic Society of Bengal was held on Wednesday evening the 29th January 1913. Colonel G. F. A. Harris presided and there was a fair attendance of members. The President announced that sixteen essays were received in the competition for the Elliot Prize for Scientific Research for the year 1912 which had been sent to the Director of Public Instruction, Bengal on behalf of the Trustees, for report, and that his report had not yet been received. The President also announced that the Barclay Memorial Medal for the year 1913 had been offered to Major W. Glen Liston, M. D., C. I. E., I. M. S. The annual

report was next presented. The number of ordinary members at the close of the year was 517. Forty-two ordinary members were elected during 1912. Out of these, 4 have not yet paid their entrance fees. The number of ordinary members, therefore, added to the list is 38. On the other hand 24 withdrew, 8 died and 8 were struck off under Rule 40. The Budget estimate of receipts and expenditure for 1913 has been calculated at :—Receipts, 32,010 ; Expenditure, 31,469. The Budget estimate of Receipts is about Rs. 1,195 less than the actuals of 1912. The Budget estimate of Expenditure is about Rs. 2,260 more than the actuals of 1912.

Sir Ashutosh Mukerjee in the course of his address dwelt on the miserable condition of the Society and insisted on the necessity of a commodious building. He then dwelt on the literary and Scientific Work accomplished by the members during the last twelve months, here he said "we are gratified to find that a high standard has been maintained from the quantitative as well as the qualitative point of view". The speaker then dwelt on the important papers of the literary Dept.

Referring to work in the domain of Natural and Physical Sciences, the speaker said :—We have a number of important papers embodying recondite researches which it is not easy to make intelligible to the lay mind. It is sufficient to say that two further instalments have been published of the monumental work by Mr. Gamble on the flora of the Malayan Peninsula. Dr. Prafulla Chandra Roy and his pupils have made important contributions well-calculated to maintain the reputation of the chemical laboratory of the Presidency College. Dr. Annandale has given us a paper on some recent advances in our knowledge of the fresh water fauna in India, and we are all grateful to him in that he puts the most recondite things in Zoology in a way intelligible to persons, who, like me, can make no pretention to technical zoological knowledge.

The following gentlemen were then elected Fellows of the Society ; Major A. T. Gage, Mr. E. Vredenburg, Mr. J. P. Vogel, and Mr. S. W. Kemp.

The following gentlemen were next elected officers and members of Council for the current year :—President: His Excellency Lord Carmichael. Vice-Presidents : Colonel G. F. A. Harris, Mr. G. Thibaut, Mahamahopadhyaya Hara Prashad Shastri, Mr. D. Hooper.

Astronomical Society of India—A Conversazione.

A conversazione combining instruction and interest of a highly scientific character was held by the Astronomical Society of India on Wednesday evening the 29th January, 1913 at the Town Hall. In response to the invitation of the Society there was a distinguished gathering including Their Excellencies Lord and Lady Carmichael, Sir William Duke. Hon. Mr. P. C. Lyon, Hon. Mr. and Mrs. Collin, Hon. Mr. and Mrs. Maddox. Sir Guru Das Bannerjee, Maharaja of Cossimbazar, Mr. Justice Harington, Mr. Justice Holmwood, Raja Peary Mohan Mukerjee, Mr. Saroda Charan Mitra, Mr. Justice and Mrs. Chaudhuri, Captain W. R. C. Jewell and Rai Bahadur Chuni Lai Bose besides a large number of European and Indian ladies. The Hall was well arranged with a variety of instruments and sundry appliances besides maps and charts, chiefly relating to the celestial world. The exhibits were kindly lent by the Survey of India, the Indian Association for the Cultivation of Science, Presidency College, Sanskrit College, Codaikanal Observatory, Mr. N. N. Dhar, Mr. J. N. Banerjee, Mr. H. G. Tomkins, the Rev. J. Mitchell, Mr. C. K. Sarkar, and Mr. Surendra Nath Chakravarti and Mr. H. Hart. Lord and Lady Carmichael were received by Mr. W. J. Simmons, President and the Council of the Society and shewn the exhibits. Several of the members of the Society demonstrated some of the instruments and appliances. The most interesting demonstration was that of models of the earth and its immediate neighbours in motion. The model shewing the solar system in motion attracted considerable attention. Another interesting feature of the exhibition was a series of comets shewn through glass reflectors. The Comet of 1908 and Halley's Comet 1910, were particularly interesting. Messrs, A. G Tomkins and Mr. S. Woodhouse had in view the reflecting telescope shewing the arrangement of mirrors. At 6-30 p.m. there was an interesting exhibition of lantern slides by the Elphinstone Bioscope Company. Some very interesting and instructive pictures were thrown on the screen of sun spots, total sun eclipses, besides enlarged views of the planets, Jupiter, Mars, and Saturn were shewn, also some important comets including the Comet of 1908 and Halley's Comet 1910. This exhibition formed the concluding feature of the exhibition. Their Excellencies Lord and Lady Carmichael then took their departure apparently well-pleased at the unique exhibition provided by the Astronomical Society of India. Light refreshments were supplied by Messrs. Castellazo Bros.

Mr. Lee's Lecture

A public meeting of the Society was held at the Town Hall on Wednesday the 5th instant when Mr. W. A. Lee. F. R. Met. S delivered an illustrated lantern lecture on the "Life History of the World."

THE DACCA UNIVERSITY

We are glad to note that we are successful in part at least to fulfil our promise of publishing comments on the Report of the Dacca University Committee in this Number. The principal objections to the scheme are concentrated on the following main heads :—(*i*) The establishment of a college for the well-to-do classes, (*ii*) The inauguration of the department of Islamic studies, (*iii*) Separate college for Mahomedans and separate representation of Mahomedans and (*iv*) The division of the Professors into the two classes, the Imperial and Provincial. The *new* features of the proposed Dacca University just mentioned are quite against the spirit of a Residential University. The points have been discussed in full below by our contributors and we are in full agreement with the views they have expressed and we have not much to say in addition.

We have our total disapproval of the scheme for the establishment of a college for the well-to-do classes. We cannot but quote Sir Gooroodass Banerjee's note on this point :—

"In the first place, there is no necessity for such a College in connection with the University, as it is not proposed that students of that College should all read for University Degrees, and as the classes for whom such a College is intended have ample means to establish a special College themselves. In the second place, the inclusion of such a College in the University will impair the integrity of University discipline by the unequal treatment of the rich and the poor side by side, and will give rise to unhealthy feelings in each class towards the other. In the third place, those for whom it is intended will benefit far less by studying in such a College than they would by becoming students of an ordinary College, and joining in the competition with a better though poorer class of students. To introduce distinction between the rich and the poor into the temple of learning would ill accord with one of the noblest and most cherished of human sentiments. I would therefore suggest that the recommendation for the establishment of a College for the well-to-do classes in connection with the new University be not given effect to."

We fear the Islamic Degrees would be poor in quality and it would not be wise to class them in the same rank with the ordinary degrees. The separate Mahomedan College and the protection of the Mahomedan interest in a University will surely widen the gap between the two races. We are strongly opposed to the division of the Professoriate into Imperial and Provincial, in a Residential University, as it will develop race hatred. Already in the Report we see a distinction made between the Jagannath and other Colleges. We fail to understand why the Principal of the Jagannath College and all the Professors of that College will be provincial men ; although all other principals are Imperial men. This at once makes a distinction between the Jagannath and the other Colleges, which is certainly an unhealthy sign in a Residential University. We think the staff, as in other Residential Universities, should consist of Professors, Assistant Professors, Lecturers, Demonstrators &c. Why not create a self-contained cadre of educational officers of the Dacca University? If you have service men in the University they cannot be expected to do much to promote a real University life for they would always try to go outside the University where they could find more prospects. (*e. g.*, promotion). The Professors in a residential University must not only live in the University but they must be fixed to it.

Turning to the "Teaching" side of the new University we do not find that the new University has introduced any fundamental changes in the courses of instruction, methods of teaching or other items and therefore we see that it does not materially differ from the Calcutta University on this score at least. As one of our contributors has said below, we also are of opinion that the Bengali Language and Literature should be studied in the new University and that adequate provision be made for the study of the modern Bengali literature by the students in all the departments of the University and that encouragement be given so that original works in Bengali as also translations from foreign standard works (especially in Higher Science, Philosophy, History and Sociology) be produced. This impetus will be best given by instituting scholarships, honorariums and stipends etc. We further hope that instead of trying to create a Bengali Literature of a 'Mahomedan Character' the encouragement may more effectively be given to the production of works of 'real Bengali.' A number of subjects should be taught in Bengali and meritorious works in Bengali language should be accepted as theses for higher University Examinations. No attempt has been made to create new fields of livelihood for the youngmen under the charge of new University ; the University may teach some of its pupils at least how to utilise the natural resources of the Country and thereby may render invaluable service towards the advancement of industries. We further suggest that in the selection of research scholars facilities be given to outsiders for admission into the Laboratories, workshops and Museums of the University and that these casual students may take the subject and subjects as a course of instruction, not so much for degrees. We are fully aware of the

difficulties of selecting research scholars and we suggest that in taking these outsiders a trial be given for a short period at least after which the Professor's report may be taken into consideration before final decision.

THE DACCA UNIVERSITY

BY PROFESSOR P. SESHADRI, M.A., MADRAS.

The members of the Dacca University committee deserve the hearty congratulations of all lovers of education in India. Without any attempt at belittling the valuable services rendered by the Government of India in the past, in the cause of University Education, it may be said that such a benevolent scheme of university expansion, so far-reaching in its ideals and effective in its spirit is ushered in for the first time in the history of this land, as the result of their labours. It is true that there has been progress of no ordinary importance during the last half of a century under the auspices of our universities, but there can be no hesitation in declaring that the new university will serve to supply elements which are conspicuous by their absence in these institutions.

It will be taken for granted by every person acquainted with the highest ideals of University Education that by making the new university residential and teaching to a very large extent, they will be achieving some of the noblest ends of university life. Sufficient care seems to have been bestowed not only on the material details of university organization, but also upon the elements necessary for building up the social life necessary for the circumstances. The report which has been placed into our hands by the courtesy of the Editor of the *Collegian*, has furnished us with material for very interesting reading, and we may be pardoned for the frank confession that we have envied the province which is to have such a brilliant measure of reform and construction at a single stroke. It is possible only to glance at the various items in the present review.

Separation of the Richer Classes

While appreciating the provision made in the scheme for the representation of a variety of interests in the colleges to come into existence under its auspices, it is with considerable regret that we notice one or two institutions which are thoroughly out of harmony with the spirit of a university. Readers of Newman will easily recall to minds the fact that most of the ancient and mediaeval Universities of Europe owed their reputation and greatness to the cosmopolitan nature of their bomposition. No attempt was made to set up barriers between race and race or introduce distinctions based on the possession of worldly goods, within the Temple of the Muses. It seems to have been reserved for a committee of experts appointed by a civilised government of the twentieth century to perpetrate such a blunder. Nothing can be more inconsistent with the spirit of equality that ought to prevail in a University than the inaugura- of a College for the well-to-do classes. It must have the most baneful effects on everybody including the classes intended to be served by the scheme. If the richer classes have not been attracted to our universities, it was not the fault of the latter, and the Indian aristocrat who has been decaying by his exclusiveness and inefficiency of character can only deteriorate into hopeless inanity by being so carefully screened away from the life of the middle classes. The close association of the nobility with the middle classes will result in mutual benefits of a high order as has been the case with Oxford and Cambridge and that probably accounts for the brilliant achievements they have to their credit. The son of the Indian Zemindar or Raja, who is cradled from his infancy in an atmosphere of indolence and moral imbecility will get worse by being trained in a hot house, intended solely for children of his class. It is a matter for considerable surprise that a committee consisting of a sufficiently large element of Britishers should have exhibited this sympathy to one of the most retrogade of ideas, one could possibly think of in connection with a New University.

The proposed Mahomedan College

It is an advantage to be done with the unpleasant comments at the very beginning and we will not hide our disapproval, on the same grounds, of the proposed Mahomedan College. The separation of race from race has done enough havoc in the past history of the land and it is nothing short of a grave administrative blunder to perpetuate such a spirit even in the future. It was suggested by an Indian Judge of Madras before the sittings of the Public Service Commission in the city that the Government was often ignorantly fomenting race hatred in the country. With separate electorates and special privileges enough has probably be done to introduce fresh elements of disharmony between races which were fast settling down into peace and amity under the benign sovereignty of Britain. But will such a spirit be allowed to taint the University, breeding the most undesirable impulses in the undergraduates who will represent the cream of the coming generation. It is opposed to the growth of a healthy nation ; it is inconsistent with the traditions of the best Universities of the world, and it is unfortunate that such an idea should be thought of at the threshold of the twentieth century We should not be understood as exhibiting any want of sympathy towards

the claim of our moslem brethern and we hasten to assure them that it is in their very interest that we advocate a free intermingling of the undergraduates without any such distinctions.

Department of Islamic Studies

We wish, again, we could speak with approval with the department of Islamic studies, but we see no place for it, with its distinctly religious associations, in a University to be run at the expenses of a Government pledged to religious neutrality. Nor do we see the remotest possibility of the general public taking kindly to the article proposed to be manufactured in the department. The committee believes that "a student thus trained will have the opportunity of becoming a ripe scholar and a man of culture, who should make a good Government officer or a suitable recruit to a learned profession". Having gone through, with great care, the syllabus proposed for the course, we see very slender foundations for such a belief. If the species is not befriended by the Government, and is not made the recipient of special privileges, it will find no scope for its prosperity in the country, except in purely moslem institutions which are so few in number.

A Law Department Wanted

We have nothing but warm praise for the other departments of the University and the Colleges of Medicine, Engineering, Teaching and Women will form an admirable set of institutions discharging functions of the greatest value to the country. In such a large province as Bengal, there is also probably room for a centre of law studies in such a place as Dacca besides Calcutta.

Entrance Qualifications

The smaller details of the scheme can command but hasty review. The entrance examinations of the other Universities of India may also be regarded as a sufficient qualification for admission into the new university without any "special consideration." The institution of a ceremony for matriculating the members is sure to lend dignity and significance to entrance into the life of the University.

Courses of Study. The Higher Degrees

It is difficult to account for the omission of Geology from the list of subjects in science. The provision for a general study of English on the part of Pass as well as the Honours students in the B. A. is an improvement on the modern scheme, where the Honours student in subjects other than English answers only a paper in Composition. The arrangement of holding examinations in particular subjects at the end of the first year will serve to remove one of the serious evils of the present examination system in our Universities. The graduates of other Universities will feel thankful for any provision which will enable them to aspire for the degrees of Litt. D. or D. Sc. of the University through means other than three years' employment in one of the Colleges. The committee has exhibited a keen appreciation of the principles underlying higher studies in the English language, by affording scope for separate specialisation in philology and literature. It will save itself from the mistake committed by the University of Madras of making an elaborate course of philology, compulsory for all students taking honours in English.

Bengali Literature of a 'Mahomedan Character,' made to order

Students of the history of languages are familiar with the story of a German Emperor who attempted the task of changing grammar to suit his caprices and failed ignominiously in the effort. The commissioners who deliberated upon the Dacca University Scheme seem to have been actuated by the same spirit when they put forward the brilliant suggestion that the Government should try to evolve, by monetary aid, Bengali literature of a Mahomedan character and that such books should be included in the works prescribed as models of style! The history of the world has yet to record instances of literature made to order, and it will be amusing to watch the new university make the Bengali language express the spirit of Islamic life and civilisation. The language has been adopted it is true by large number of Mahomedans in Bengal but the genius of the tongue is essentially Hindu, and its noblest treasures must be inevitably associated with the spirit of the Hindu race. The committee may as well complain of the christian spirit of *Paradise Lost* and expect the future Milton to sing the glories of Allah to suit the requirements of the Mahomedan Students of Dacca! As for encouraging literature by monetary aid, we will only recall Macaulay's remark in his *Essay on the Royal Society of Literature*, that prize poems are good only for lighting them. We only hope that the hall-mark of university approval will not be set on the crude lucubrations of needy bards or prose writers who may sally forth to produce Bengali literature of 'a Muhammadan character.'

The Professoriate

A word of comment on the details of University administration and employment of professors seems to be necessary. The principle of race representation should not find the slightest sympathy in the university. Nor should any attempt be made to restrict the legitimate aspirations of Indian Graduates, by closing the higher ranks of service from their reach. It is a grave educational evil to concentrate all the higher work of the university in the European element, for that is denying the Indian

an experience and service absolutely essential for the effective assimilation of Western culture. The higher talent of the country has till now been repelled from university work, to find employment in law owing to absence of encouragement, and let not educational progress be further retarded by any kind of continuance of the evil.

Indianise the University

It is true again that no effective attempts seem to have been made by the committee to indianise the culture as much as possible. There is some recognition bestowed on the need for study of Economics in relation to Indian conditions, but the outlines of Hindu Philosophy might have been included in the syllabus of the ordinary B. A. course. Some of the most glorious achievements of the Hindus have been in the region of philosophy and the University may bring them to the calm and respectful consideration of its undergraduates, specially as the systems of philosophy display a profound subtlety of thought.

It is only our cordial agreement and appreciation of the details of the scheme that prevents us from a more elaborate treatment of the scheme. Mr. Nathan and his colleagues have laid the Indian public under a deep debt of gratitude, and their report is bound to be handed down in the history of Indian education as one of the epoch-making documents. The University will only be the herald of several of the same type to be started in the future and a realisation of that hope will imply a much larger measure of educational progress, than the brilliant scheme conceived by the statesmanship of Lord Macaulay. We have no hesitation in promising a stream of pilgrims from various parts of India, to behold the temples of knowledge that will rear their heads in pride in that ancient city of Bengal,—to exclaim in the words of Matthew Arnold, that the University 'keeps ever calling us nearer to the true goal of all of us, to the ideal, to perfection, to beauty, in a word, which is only truth seen from another side'!

Madras,
6th February 1913. } P. SESHADRI.

A NOTE ON THE COMMITTEE'S REPORT

BY PROF. S. C. BOSE, A. M. (NEBRASKA)
Professor of Economics and Political Philosophy,
City College, Calcutta.

The Government of Bengal have invited criticisms on the proposals contained in the Report of the Dacca University Committee and the criticisms will receive the considerations of the Governor in Council before final conclusions are arrived at with regard to the organisation of the University. An opportunity for an expression of opinions has thus been given to those who have suggestions of improvement to offer, and they must thankfully utilise this opportunity. This consideration, coupled with a request from the Editor of the *Collegian* has persuaded the present writer to put down the following remarks.

Matriculation Qualifications

Mr. Mahomed Ali, in his note of dissent, has called attention to the fact that students are admitted into Colleges, "where instead of their being lifted up to the level of the ideal lecturer, the lecturer is forced to step down to their own lower level"; and in all the recent endeavours to improve the character of education in India there has been this essential mistake that "excellent superstructures have been designed without due regard for the character of the foundations". This aspect of our educational problem ought to receive adequate recognition in any scheme of reform that may be adopted in Collegiate education in this country. But the Dacca University Committee have felt it necessary to recommend that the Matriculation certificate of Calcutta must remain the sole general entrance qualification for the new University, because they find practical difficulties in the way of Dacca adopting a separate standard. Under these circumstances, the Dacca University may find a possible remedy in the institution of a private school attached to the University and subsidised by it, which should undertake to prepare freshmen of unsuitable education for University-teaching. By fixing its working-hours in the evening the school may be able to work harmoniously with the University. The suggestion is derived from the writer's knowledge of the existence of such a school in the University of Nebraska.

Intercollegiate Lectures

In the Dacca University, B. A. lectures will be inter-collegiate. This arrangement is likely to entail the delivery of lectures to audiences of one hundred or more. The Committee maintain that, "while tutorial classes should be kept as small as possible, there is no objection to large classes for lectures". The present writer submits that in subjects like Economics, for instance, whose exposition demands discussion with the students, large classes are undesirable. In this view he finds support in the opinion of a distinguished American economist Professor Simon N. Patten of the University of Pennsylvania. Dr. Patten has remarked:* "The old economic teacher (in

* Vide his book *Reconstruction of Economic Theory*, Supplement to the *Annals of the American Academy of Political and Social Science*, November 1912.

America) had a dozen or twenty students in his classes with whom he argued from rational premises. Elementary politics and Economics are now taught in large classes. No one can argue with one hundred students. My experence is that forty is the upper limit, and it is difficult when the classes go above twenty. This means that the College professor must appeal to the sentiments and emotions of his hearers. He must orate rather than argue. The emotional appeal also demands that he put before them the sentiments most likely to be active in the minds of his pupils." The result of this change in the method of instruction in American Universities has, Professor Patten holds, been that "College life is now emotional, rather than rational. Fifty years ago college students argued; today they shout and sing."

Department of Political Economy & Political Philosophy

In the new University no separate department will be created for Sociology or for Political science. These subjects will be studied in connection with Philosophy and Economics respectively. In these days every branch of higher learning has assumed such vast and complex proportions that this dependent position of the two most important "humanities" can hardly be favourable to efficient teaching and vigorous research.

No Separate Department for Sociology or for Political Science

The committee would not require students of the Economics department to take any course in Sociology. But recent developments in Economic thought demand that Sociology must form a collateral study in the department of Economics. Careful students of Economics are aware that at the present moment the conflict that had been going on in the domain of Economic thought for many years between what may be called economic monism and economic pluralism seems to have ended in the victory of pluralism, that attempts are now being made to rehabilitate economic monism on the basis of Sociology, and that these attempts have met with a certain amount of success.

The committee have excluded Political Science from B. A. Pass Economics and also from B. A. Pass History. Apart from the consideration that Political Science is closely related to the two subjects, its exclusion is undesirable on utilitarain grounds. The majority of graduates of our Universities happen to be Pass B. A's., and only a very small percentage of the Pass B. A's go in for the M. A. examination. The situation will, it may be assumed, be repeated in the Dacca University. Under the arrangement of the proposed curriculum of studies in the Dacca University, the Pass B. A's will have no opportunity of receiving any political education. But, having regard to the consideration that the zemindar's sons and the majority of the Mahomedan graduates will, under the constitution be admitted, in due course, to franchise and invested with political powers, it seems desirable that the Dacca University in which special facilities will be given for the education of these classes of students, should not fail to provide for their political education.

Exclusion of Political Science from B. A. Pass Course

It is gratifying that the Dacca University will adopt a comprehensive scheme of instruction in Economics. The course of economic studies will be "designed at the same time to promote the general culture of the student and to fit him for any career in which he may be called upon to deal with business affairs." Descriptive economics will, therefore, be given a prominent place in the curriculum of studies. But to fully realise the object in view, the University should provide an Economic museum in which the raw materials of industry, the processes of production, the development of transportation and such other things will be exhibited. The purpose of such a museum will not be fully served by the geological section of the proposed museum to be attached to the University.

Instruction in Economics

The committee have recommended the strength of the staff in Economics to be six. In view of the fact that these six gentlemen will be called upon to teach both Economics and Political science, and having regard to the degree of specialisation that has been achieved in these branches of study in the great Universities of the west, the strength will not be adequate.

Staff in Economics

S. C. Bose.

ON THE SCIENTIFIC & TECHNICAL EDUCATION AFFORDED BY THE DACCA UNIVERSITY

BY AN F C. S.

It is a matter of considerable significance that the Dacca University committee is strongly in favour of higher scientific education. "The department of science will be constructed on an exhaustive scale" and it is expected to afford a very efficient and vast opportunity and field of research to the students. We hope that the student community from the examples of Dr. Ray and his pupils and Dr. Bose will not lose any opportunity to make the best use of advantages available to them. We do not essentially differ from the scheme laid down in the report but only some important suggestions are made below.

Elementary Scientific Education

In connection with general courses of study the committee has considered and appreciated the difficulty of an Indian student to "study in a foreign language". For this the standard of examination may be slightly lowered. We think that the introduction of elementary scientific education in the higher schools is essentially necessary with following statements of support, even lowering the standard of other subjects:

(1) The students of all the Western Universities have a common advantage that they find their scientific books in their mother tongue and they commence their scientific education much earlier and with comparative ease. For this reason, though the "Indian students enter the University at a very early age" practically no advantage is gained. The Western Universities are used to teach and examine the matriculation boys in scientific subjects. Their standards of examinations are in some cases equal to that of the Intermediate standard of Indian Universities. The authorities of Universities of this country having a desirable tendency to equalise their graduates to those of other Universities make their final syllabus equal. The consequence of which is that the students preparing for the B. Sc. or M. Sc. degree have to learn more at similar periods than the students of the foreign Universities preparing for the corresponding degrees. And this is perhaps the sole reason for the abnormal amount of failures of students at that stage.

(2) After passing the matriculation examination the students will be required to select such subjects of study into which they had no access before hand. Now the difficulty is evident, which the committee has also mentioned, how one can know it before hand with what extent a subject will suit him without having any preliminary previous knowledge about it. The examples of evil consequences of this system are not at all rare in the Calcutta University. There are many students who being tempted by the mysterious experiments of science took up the scientific subjects but finally they met with unexpected failures and bad results with the consequent loss of time, energy and courage.

(3) It is undoubtedly expected that some of the students will surely specialize and shine in scientific subjects in future. Hence it is better to afford them opportunities for specially preparing their brains, minds and thoughts from the very beginning, just as some of the foreign Universities are used to do. Most of the real specialists will, we dare say, agree that they feel a peculiar sort of delight when they dwell in their own subjects. Why then the youthful beginners should not have the amusement of observing the very interesting scientific phenomena?

Agricultural Education

The committee has discussed the question whether a College of Agriculture should form a part of the new University, and it has "appeared to the committee that there is no scope at Dacca for an institution of University grade." If the committee has decided without any exhaustive report by an expert on the subject, it seems desirable that further enquiry may be made by a suitable practical expert from California or United States before any actual step is taken for the education of the people of more or less the whole of Eastern Bengal.

In establishing a college for the well-to-do classes it is evident that the Government is ready to do the maximum possible benefit to the people. Since they are well-to-do, they require least help from others; they can supplement or complete their education from any University at any part of the world if they at all care for it. But the claim for education by the agricultural people is far more important and legitimate than by any other classes. It is rather very serious to think of the question of more than two-thirds of the whole population. Of course the rayats will not be capable of directly having any advantage of higher University education but they will surely derive some new methods by diffusion from highly trained men and such are the cases in advanced agricultural countries. Parallel examples of this are also very frequent in other intelligent industries of this country. It is generally accepted that the agricultural condition of the country is to be much improved. Under the circumstances it would only be an unmistakable procedure to be guided by an established expert on the subject.

Advancement of Industries

Considering the miserable industrial condition of India the proposed University may render a considerable indirect help for the advancement of the industries. One of the best way to direct the attention of the highly trained and intelligent students is by considering them eligible as candidates for I. Sc. or some other degree with a thesis showing originality about industries.

After the Swadeshi movement numerous and various industries have been started by the experts trained from Japan, Germany etc. The major part of the industries taken up is related to chemistry. Of the difficulties for which these chemical industries are suffering with which the University may be concerned is the theoretical knowledge of the experts. Now the experts of applied chemical industries as, agriculture, printing ink, tanning, matches, pencil etc., though they are trained abroad have not sufficient theoretical knowledge. What Mr. T. H. Richardson has said of engineering is also true with all applied sciences. Simply foreign knowledge

and experience will not do; every step requires modification according to the local conditions of the country. Such modification requires a sound theoretical knowledge, which however can hardly be expected from the present experts.

If the University allows students to submit thesis for degrees from firms having bonafide requisites for investigation to be carried out there, it will be an immense advantage to both the firms and the students. It is very much desirable to keep some indirect influence over the industries without which there is no hope of their near rapid improvement. And besides the temptation for degree and the reputation for which will in future render valuable impetus for their rising, may induce intelligent youths to take up industrial investigations. Some may think that in the rising of a meritorious business man no University stamp is necessary just as Sir Rajendra Nath Mukerji did not require a D. Sc. or even the Licentiate in Civil Engineering to establish such a big firm as Messrs. Martin & Co. But this is rather an exceptional case. The students of ordinary merit may use their University certificates to win the confidence of the common public, who may not possess much freedom of thought and independence of judgment.

In western countries original works of both theoretical and practical importance are very successfully conducted in educational and commercial laboratories, which have jointly rendered their growth of industries so easy, rapid, and progressive. It is very well known how marvellous researches are conducted in the firms of Burroughs Welcome & Co., E. Merk, Kahlbacum, Frederic Bazer & Co. etc. Should we not expect similar firms here? If the above desired regulation be allowed it will surely render an indirect but substantial help for the growth of the industries.

Selection of Research Scholars

The committee has regarded it "as of the greatest importance that advance study and research should be given a prominent place in Dacca University." This is exactly the attitude necessary for India. In this connection we keenly feel it necessary to suggest that conditions for eligibility of students undertaking research work should not be restricted among the graduates only, some opening however limited need be left for non-graduates. These non-graduates or outsiders may be given a trial for a short period of few months or days after which the professor in charge will give an opinion about his ability with which it will be decided whether he may be allowed to continue or not. These research scholars may also get final degrees by submitting thesis on the special subject on which he is investigating. With this the University will be of use to those gifted future scientists who will have no academic career like the pioneer revolutionary scientists of the world.

Original works by non-graduates are very frequent in western countries, in India also such examples are quite available. In the chief centre of research, the Presidency College, one of the non-graduate pupils of Dr. Ray has done such efficient original work as is far superior to that hitherto done by the Government research scholars either in quality or in quantity. It is rather better to give trials to one or more incapable students than to totally and permanently exclude some scholars of real merit.

We also feel it necessary to note here the difficulty of selection of proper research candidates. In the opinion of many whatever precautions may be taken by the examiners the University written examinations are and will be more measures of memory than merit. Hence the qualifications necessary for any one to undertake original investigation cannot be well-judged from his previous University career. He by his results of previous examinations has practically shown no proof of his originality. Under the circumstances it is highly desirable to keep the willing candidates possessing no previous originality, for a certain period as will be desired by the professor in charge, under trial after which the selections are to be made according to the recomendation of the professors who will also be responsible for the success of their nominees.

AN F. C. S.

DACCA UNIVERSITY SCHEME.

BY, ONE WHO IS HOPEFUL,

We heartily thank the Government and Mr. Nathan for the opportunity given to the public for discussion of the report of the Dacca University.

We differ from the decisions arrived at by the committee in certain important points, which we are going to explain now. The programme of the new University, as it is, is quite charming. It is rather too much to expect that we are really going to have such a University in this country. We should always aim at the highest ideal so that it may at least be partially realised. So we mean to point out some of the defects of the existing scheme.

Vernacular as medium of Instruction

We believe that no Indian University will ever be able to attain the same level of efficiency as the German, the English, the French or the American Universities, unless the teaching in these be con-

ducted in the mother tongue of the country in which the University is situated. We believe that the German or English Universities would have attained no better success than the existing Indian Universities, were they to teach their pupils in the language of the Chinese or the Bengali. The energy expenditure in acquiring a foreign language is immense. Almost all the available brain power of Indian youths is used up in developing the memory of the pupil, little opportunity being given for cultivating his power of original thought, observation or imagination, faculties without which no high sort of intellectual work can be done. But as it is not possible at present to impart education in Indian Universities in Indian languages, not because there are no text-books, in vernaculars (for text-books are readily prepared when there is a demand for them as in the case of Japan, and also we had to remain satisfied till very lately with English translations of such text-books as Ganot's Physics, Kirk's Physiology) but because the Government of the country must remain for a very long time to come English, we propose that in the New University a better facility than in the Calcutta University, for the cultivation of the Bengali Language should be given, that a number of subjects there should be taught in Bengali. And also meritorious works in Bengali language should be accepted as theses for higher University examinations.

Imperial and Provincial Service

The second point that we want to suggest is that no distinction should have been made in the Educational Service. There ought to be one service in the education department. Professors ought to be appointed not according to their colour but acording to their merit. We suggest this measure because it would be for the benefit both for the Government and the people. In no other department this distinction between the provincial and Indian service is more harmful to the Government than in the Education Department. People might be led to believe that a European magistrate is really superior to an Indian magistrate, as there is no standard which could accurately measure the individual capacity for executive work. But the case is not so complicated in case of education department where the students seldom fail to determine the respective merits of their professors. Just think, that two professors are teaching the same books with the same amount of success (as is is done in the Government Colleges), but one of them draws a monthly salary of Rs. 500 per month while the other of Rs. 200 only. Now is this sort of different treatment likely to impress the students with confidence in British Justice?

We suggest that all professors should be selected according to their merit. Such men should be obliged to publish every year at their own expense the results of their work during that period embodying either their power of original thought, observation or original mode of treatment of an old subject. This will encourage men of different stamps to enlarge the boundaries of knowledge or diffuse it according to their various capacities. If this system is rigidly followed, then, the University is expected to produce the best results.

Hindu-Mahomedan

In the Dacca University scheme some undue advantage has been given to the Mahomedans. In every civilised country the creed of a man has nothing to do with his University education. The fittest man there is only given preference. This peculiarity in the Dacca University Scheme is due, it is said, to some political consideration. Probably the Government has got its own motive for doing so Let us present a concrete case to the Government. A poor Hindoo scholar fails to procure a scholarship, but nevertheless he is a good boy and with proper facility he can easily obtain University degree. But on account of poverty he is unable to prosecute his studies; by over work to secure a scholarship, and by underfeeding his health is shattered and his brain deranged; he finds his ambitions crushed but he sees that a Mahomedan student immeasurably inferior to him in brain power is loaded with all the facilities for prosecuting his studies. Is this system likely to turn out a good citizen from either of the two. The one rightly or wrongly feels himself unjustly treated, the other because he was once treated with consideration is always conscious that however worthless he may be he should be given special advantages in every sphere of life.

THE UNIVERSITIES

Calcutta University

Degree of Doctor of Law

On the recommendation of the Board of Examiners, the undermentioned candidate is declared by the syndicate as eligible for admission to the Degree of Doctor of Law :—Babu Dwarka Nath Mitra, M. A., M. L. The subject of his thesis is: "The position of women in Hindu Law".

Affiliation

The Rajshahi College is affiliated in political economy and political philosophy to the B. A. pass standard with effect from the session 1912-1913.

Exam. Dates

The Matriculation Examination, 1913 will begin on the 3rd of March 1913. The Intermediate Examinations will begin on the 17th March 1913. The B. A. and B. Sc. Examinations will begin on the 25th March 1913. The first M. B. Examination will begin from 28th April 1913.

Two post graduate Scholarships

Two post-graduate Research Scholarships of the monthly value of Rs. 100—one for scientific subjects and the other for literary subjects will be awarded by the Director of Public Instruction, Bengal. Applications must be made to the D. P. I. through the head of the institution on or before the 15th February 1913.

Punjab University

University Lecturer

Mr. Samarendra Gupta, son of Mr. Gupta lately Editor of the "Tribune," has been appointed by the Punjab University to deliver a course of lectures on "Indian Art" This is the first appointment of an Indian to the post.

Degrees conferred in the year 1912.

(*Continued from page 218*)

Bachelor of Teaching :—5 in the first division, 22 in the second division and 2 in the third division, all from the Central Training College Lahore.

Bachelor in Medicine and Bachelor in Surgery :—24 passed all from the Medical College Lahore.

Bachelor of Laws :—

	1st Div.	2nd Div.
Law College Lahore	... 17	... 35
Private Students	... 2	... 23

Shastri (Honours in Sanskrit) :—

	Second Div.	Third Div.
Oriental College	... 3	... 7
Private students	... 1	... 7

Maulvi Fazil (Honours in Arabic) :—

	1st Div.	2nd Div.	3rd Div.
Oriental College	... 2	3	1
Private students	...	... 1	5

Munshi Fazil (Honours in Persian) :—

	2nd Div.	3rd Div.
Oriental College	...	5
Private students	... 3	... 22

Allahabad University

Examinations

The Intermidiate examination of the Allahabad Centre, and the B. A. and M. A Final examinations of 1913 will be held at the University Senate Hall, Allahabad. The B. Sc., M. Sc. Previous and final and the M. A. Previous examinations will, as usual, be held at the Muir Central College, Allahabad. The Law and Preliminary Scientific examinations at the Allahabad Centre will also be held at the University Senate Hall, Allahabad.

Preliminary Scientific Examination, 1913 :—

Exam Date

The Preliminary Scientific Examination for the Degree of Bachelor of Medicine and Bachelor of Surgery will be held at Allahabad on Monday the 8th September 1913 and the following days, commencing at 10 A. M. each day, one paper as far as possible being given daily. Principals are requested to intimate to the Registrar not later than the 30th June 1913 the probable number of candidates likely to appear for the aforesaid examination from their colleges in 1913.

Syllabus for the Exam. of 1913.

Chemistry :—The Modes of Occurrence, Preparation and General Characters of Methane, Ethane, Ethylene, and Acetylene, and their derivatives *viz.*, Haloid Compounds, Alcohols and Ethereal Salts, Ethers, Aldehydes, Ketones, Acids, Amines, Starch, Sugar and the processes of Fermentation, Urea, Benzines and its more important derivatives, Glycerine and Saponification, Boron. A Brief description of the following Metals, outlines of the most important metallurgical processes, important Compounds, Uses and Tests: Sodium, Potassium, Ammonium, Calcium, Magnesium, Zinc, Mercury, Aluminium, Copper, Silver, Iron, Tin, Lead and Antimony. The Nature of Combustion, Structure of a flame, Cause of Luminosity, Oxidation and Reduction, Blowpipe Flame and its Use, Acids Alkalis, and Salts, Neutralisation. The General Methods of the Preparation and Purification and the Principles of the Ultimate Analysis

of Organic Substances. Students shall also be required to pass an additional practical examination in Elementary Volumetric Anlaysis, *viz.*, Titration of Acids and Alkalis, Estimation of Ferrous Salts by means of Potassium Permanganate, Estimation of soluble Chlorides and Carbonates. The following book is suggested :—Remsen's Organic Chemistry (Macmillan.)

BIOLOGY :—The Syllabus prescribed in General Biology for the Intermediate Examination of 1913 with the addition to the practical work of the dissection of the Rabbit.

The Examination in 1914 will be held in Chemistry only and the course of study in that subject will be the same as in 1913.

Note-books of I. Sc. Candidates

WITH reference to the note in the University prospectus requiring Intermediate candidates taking Science, to keep a written account of each experiment performed by them in a special note-book, the Syndicate of the University has directed that these laboratory note-books should be inspected by the examiners. The principals of Colleges are, therefore, requested to keep the note-books of candidates appearing for the examination of 1913 ready for submission to the examiners, whose names and addresses will be communicated to them later. The note-books are to be forwarded to the examiners, *without fail*, on or before the *1st April*, 1913.

THE HINDU UNIVERSITY

Funds

THE total amount realised up to the 31st January 1913, comes to Rs. 19,81,439-9-5p. The important collection is the payment by the Maharaja Holker of Indore of the balance of two lakhs out of the five lakhs subscribed by His Highness.

The Deputation's Tour

THE Hindu University Deputation which reached Delhi on the 1st instant, was, we are glad to learn, accorded a very hearty reception. It was headed by the Maharaja of Durbhanga, Malaviya, Pandit Dindayal, Bhatele Shaim Behari Lal and B. Mangla Prasad. It waited upon his highness the Maharaja of Nabha who promised a handsome donation of one lakh to the University fund.

The depution is to visit Bikanir on the 1st instant, Jodhpur on the 3rd, Bombay on the 6th, Surat on the 12th and Limdi on the 13th. After this the deputation will visit a number of states of Kathiawar and central India.

t Jodhpur

The Hindu University Deputation headed by the Maharaja of Durbhanga and Pandit Madan Mohan Molaviya, now at Jodhpur, announces that the Marwar Durbar has contributed to the Hindu University Fund Rs. 2,00,000 besides an annual subscription of Rs. 24,000. The name of Lord Hardinge is to be associated with this contribution. The deputation also announces a subscription of Rs. 4,36,000 from the Maharajah of Bikanir.

A Moslem Post-Graduate Scholaship to the Hindu University

His Highness the Thakore Sahib, the Ruler of of the State of Limdi, with a view to commemorate the visit of H. H. the Aga Khan to the State made a donation of Rs. 5,000 to be utilised by His Highness the Aga Khan in giving scholarships to any Moslem or Hindu youths studying in either the Aligarh Moslem or the Benares Hindu University. H. H. the Aga Khan thanked the Thakore Sahib for the generous gift and said that he would give a scholarship out of this sum to any Moslem post-graduate going to the Hindu University for his M. A. course.

THE COLLEGES AND SCHOOLS

First Sanskrit Convocation, 28 th January, 1913.

The inaugural Convocation of the Board of Sanskrit Examinations was held on the 28 th January 1913 in the Calcutta Sanskrit College premises, for conferring titles on students who have passed the Sanskrit title Examinations in various branches of Sanskrit learning. His Excellency Lord Carmichael the Governor of Bengal presided. After His Excellency had declared the convocation open, candidates or Titles were presented by the Secretary (Dr. Satish Vidyabhusan) to the Hon'ble the President of the Board of Sanskrit Exams. (Sir Ashutosh Mukerjee,) with a Sanskrit sloka adapted as the formula for the purpose. The diplomas were then conferred by the President with a charge (Sanskrit sloka.) The President then made a lengthy speech giving a consistent history of the progress and expansion of sanskrit learning in this country. He named Pundits Iswar Chandra Vidyasagar amd Mohesh Chandra Vidyaratna and described how Sanskrit learning received a great impetus at their hands. After this His Excellency declared the Convocation closed and addressed the meeting.

The Khelat Chandra Institution, Calcutta

Prize Distribution

AT the prize distribution of this school on Friday evening the 31st January 1913 the annual report recapitulated the history of the institution, and referred to the building of its own, without which the school was working at a great disadvantage. It announced

donations received from the Mohunt Maharaj of Tarakeswar of Rs. 300 for the Library and Rs. 200 in aid of the prize distribution; Rs. 100 from Raja Gopal Lall Roy ; Rs 100 from Babu Raghu Nath Poddar ; Rs. 50 from the estate of the late Babu Romanath Ghose ; Rs. 40 from Babu Saroda Charan Chatterjee, zeminder ; Rs. 10 each from Babu Santa Seal Bannerji, Bidyabinode, and Mr. N. Maitra.

Mr. Lyon's Speech

The Chairman (Hon. Mr. P. C. Lyon) said he had known the school as an old friend, for twenty years past and he was glad that authorities were going to celebrate its jubilee. It was a great pleasure to him to visit the school and see the keenness of the boys at work, but his last visit made him sorry that institution was working under great difficulties in a very small house which was entirely inadequate for accommodating all its classes and meeting the demands of an energetic University. He was, in fact, sorry to find that some of the boys amongst whom might perhaps be found a future Vice-Chancellor, were grouped in a stable. The wealthy people of Bengal, the Chairman observed, were often ready to help any good undertaking. The school had long been looking forward to one of them giving help towards obtaining a house of its own. At last one of them had come forward—the zamindar of Udainarainpur, Howrah, Babu Saroda Charan Chatterjee—who had promised a princely donation of Rs. 50,000 for the building of the school. This was a noble gift from a noble man, who had not only shown the liberality and munificence of which they have just heard but as they knew, had lately founded a school and a dispensary, at an enormous cost, in his own district, and who had still been ready to befriend other useful undertakings outside his own. Mr. Lyon thought it was a very good example, and hoped that other rich persons would contribute towards education in this country. In concluding, he remarked that no doubt the Government would back up the generosity of Babu Saroda Charan Chatterjee, if the institution accepted the conditions of the Government.

Babu Saroda Charan Chatterjee's Donation of Rs. 50,000

The Hon. Mr. W. C. Madge proposed a vote of thank to the chair. He joined in thanking the donor who had promised a princely gift to the school. The President called for hearty cheers for the donor, which were given with enthusiasm.

Lord Carmichael's Inspection of the Ripon College

His Excellency Lord Carmichael on Friday forenoon of the 24th January 1913 paid a visit to the Ripon College. Much interest was evinced by His Excellency when he entered the Chemical Laboratory of the College. Lord Carmichael made a minute examination of the arrangements and the work which was being done by the studens at the time, in accordance with his express desire previously made known to the authorities. Lord Carmichael took a personal interest in the work, examining note books, questioning and testing the work of the boys in the Dark Room, and exhibiting a familiarity with the scientific work which was simply surprising. His Excellency next visited the Arts Classes and also the Tutorial Classes, after which he inspected each class in the School Department, which was also at full work at the time. The monotony of the inspection which lasted for about an hour, was frequently punctuated with enthusiastic shouts of applause followed by a chorus of "Good morning" by the boys as His Excellency left each of the class rooms.

At the close of the inspection the Hon. Babu Surendra Nath Banerjea on behalf of the College staff thanked His Excellency for his visit and said that it was a great encouragement to them to know that their work was viewed with sympathy by him. His Excellency made enquiries about the building fund of the College.

Sabour Agricultural College

The fourth sitting of the College Debating Society was held on Saturday, February 1st, at 6-30 p. m. in the Botany Lecture theatre. Mr. E. J Woodhouse, Principal of the College occupied the chair. After the reading of the Secretary's report by Babu S. B. Roy the President called upon Babu D. N. Mitter (2nd year student) to read out his paper entitled "Is Scientific Agricultural Education Fruitful in India?" He supported and welcomed this education. Babu S. N. Chatterjee (2nd year student) supported many points. An interesting debate followed in which Mr. C. S. Taylor, the Agricultural Chemist to the Government took an active part. The President then addressed the meeting and cited many interesting facts to support the fruitfulness of scientific agricultural education on Indian soil. With a vote of thanks to the chair the meeting came to a close.

Madras Medical College.

At the Prize distribution ceremony of the Madras Medical College which was presided over by His Excellency Lord Pentland, the Principal Lt. Col. Giffard made the following speech :—

YOUR EXCELLENCY.—This is indeed a *Red* Letter day in the annals of this College ; not since July 1837 has a Governor of Fort Saint George presided over an assembly in this Hall.

We thank you very much for your kindness in coming here to-day. There seems to be quite an intimate relationship between a Governor's visit and that of one celestial body at least, for the periodicity of the appearance of Halley's comet in perihelion passage is almost exactly that of the arrival of a Governor in this Hall. Governor's visits to this College are as Angel's visits few and far between. A Red Letter day indeed and had it been our good fortune that Her Excellency the Lady Pentland had been able to accompany you, a Red Letter would not have sufficed and the Illuminator of our records would have been compelled to paint with all cunning the figure of some saintly lady inside the golden flourishes of the Initial of this chapter. The chapter opened this day is for another reason almost worthy of such an honour, for it is the first occasion on which an Indian lady has taken her Degree of M.B. and C.M., and not satisfied with that unique performance has carried off from men and women students alike three gold medals. I refer, of course, to Miss Muthulakshmi Ammal.

Your Excellency, we have no Founder's day, nor do we pray for the memory of any pious Benefactor. The Medical School was founded in July, 1836, at a cost of Rs. 9,861-3-3 by the Madras Government and has been maintained by them ever since. As you probably already know it has not, *as yet*, become customary to pray for the repose of the soul of Madras Government.

On the last occasion the historian of the College states: "The first anniversary of the Medical College went off with great *eclat*. There was a brilliant gathering of all the notabilities of Madras, the Right Hon. Lord Elphinstone presided, and the members of Council, of the Medical Board and many gentlemen, professional and otherwise, were present. A class of 93 students, the large number of whom were Europeans and East Indians and the remainder Hindus assembled on the ascending benches of the theatre, and after a brief introductory address by Dr. Mortimer, explaining the constitution of the various classes, the public examination began. The subjects they were examined in, were Anatomy, Physiology and Materia Medica. The promptitude, clearness and precision with which replies were given could hardly be exceeded, and there appeared to be an aptitude for instruction, and an emulous desire of acquitting themselves well, manifested by all, European, Indo-Briton and native, which forms the best augury of success that could possibly be afforded. The Right Hon'ble Governor expressed himself highly gratified with the result of the examination, and addressed a few words of exhortation and encouragement to the students to urge them to assiduity in their useful and honourable pursuits."

Your Excellency, I fear Medicine has advanced too much since those simple days for any use to be found in a public examination, or for you to have any desire to question those present in Anatomy, Physiology and Materia Medica, still less perhaps in Surgery, Medicine, Bacteriology or Serum Therapy; but we all hope that you may be pleased to follow Lord Elphinstone's example and to address "a few words of exhortation and encouragement" to the assembled students. Exhortation and encouragement we need, for the practice of Medicine is a hard task for a life time anywhere, and doubly so in India. In England the Profession of Medicine as a Profession still struggles (even with a Chancellor of the Exchequer as opponent) for adequate pay and reasonable recognition by society. If in Europe the general level of the profession is still too low, at any rate there are some prizes. In Europe all doctors must reach a certain standard of general education before registration as a student, must qualify *ie.*, reach certain fixed level for professional excellence as tested by examination and must depend after this examination on their own wits and fitness for their advancement in life. In the Medical Schools of Madras and in India generally there are many grades and many standards in the profession, grades from which the individual has no chance of escape, grades still called by names disused in Europe for half a century or more. Why should this be so? Why, if it takes five years of teaching to qualify a student in Europe, should we still by our actions maintain that four years is enough for a student (below the M. B. class) in Madras. Two reasons can at once be given. The absence of sufficiently good school education makes it impossible for most students to reach a sufficiently high standard of general education. It is a great pity that this state of things should exist, but it is a greater pity that most of those who have been long enough in the service of the College to be able to form an opinion are slowly forming the opinion that the students now coming up for training in Medicine are less well educated and less fitted well to carry the huge load of modern Medical education than those who entered the College 15 or even 10 years ago. The second reason is that pay in all grades is inadequate and has not increased in proportion to duties, responsibilities and work. A third Grade Sub-Assistant-Surgeon still receives less monthly pay than it costs to keep a horse and a lady apothecary (save the name), cannot command the wages of a good motor-car chauffeur.

I need not mention honors and distinctions, for it will be well-known to you that whilst a doctor in England may aspire to become a Baronet, a Knight of an Order, a Privy Councillor, or become a Member of Parliament, the students of this College do not dream of ever attaining a companionship of an Order and Dr. Nair whom I am glad to see here to-day is the only non-official gentleman of our profession who has reached a seat in the legislative Council of this or any other province.

Well, Sir, after all this are we downhearted? *No. Oh no.* We recognise the difficulties, we are working to overcome them and we hope for better times. Nor are we without reason for hope, for Government has spent two and half lakhs for the new buildings of Physiology and Hygiene and in a new G. O. have notified their willingness to spend some more lakhs on the reorganisation and rebuilding of this College. There is some reason to hope that the Government of India may be persuaded to pay Military Assistant Surgeons, so that men of better *education* should be attracted into the service, and that when they have entered, they should have 5 years' education, which will fit them for Civil Surgeoncies and allow them to be admitted to degree in Europe. The military students of this College compare very favourably well with those of other Colleges of Bombay and Calcutta, in that the first ten of the list entering the army this year came from this college. Again, a great move forward

is about to be made by the Madras Government in in bringing back once more into this College the Sub-Assistant Surgeons (I say *once more* advisedly because in the course of their chequered career from "native dresser," through Hospital Assistant, to Sub-Assistant Surgeons, they have twice been expelled from this College). These Sub-Assistant Surgeons now in the provincial school even today learn Chemistry, Physiology, Materia Medica and Bacteriology without a laboratory for any of these subjects and are not taught Pathology at all. The Government of Madras have already so rebuilt and recognised the Government Ophthalmic Hospital, Government Maternity Hospital that these institutions are now the finest and best-fitted for Medical education in India if not in the Empire and the dear old General Hospital is shortly about to rise Phœnix-like for the third time in its life in all the panoply of new and brilliant plumage. In three other respects a Medical School in this country differs from one in Europe.

1st. The attraction of a Medical career in this country and the openings for Medical men in their later years are so few that the Medical students are nearly all poor men or men who do not consider that there is anything to be gained by spending a few years after qualification in teaching or in research. The result is that the paid teachers of this college are the only persons to whom the students look for help and instruction, whilst in an European school there are always bands of willing unpaid workers both for teaching and for research.

2nd. The public look to Government too much and help themselves in these matters too little.

3rd. No organised Post graduate study.

In 1886, at the 50th Anniversary of the foundation of this college the man who stood in my place then said to the assembled guests and students these words :—Seeing how intimately the well-being of the public is bound up with this institution, I would fain hope that the time is not far distant when wealthy philanthropists will be able to see their way to instituting research scholarships which will encourage scientific investigation and enable highly trained Medical graduates of our Universities to spend a portion of their career in prosecuting enquires in the wild field of causation and the treatment of morbid states and in their practice, testing the value of the numerous indigenous drugs which are reputed to be efficacious in the treatment of disease. I am led to believe that a large number of educated and influential native gentlemen share in this hope and, as this is so, I trust, that ere long, the view here expressed may take a practical shape."

Although 27 more years have passed no wealthy philanthropist in Madras willing to endow research has so far appeared. I wish that any words of your or mine, Sir, could persuade some to come forward because many problems of medicine peculiar to Southern India or problems that press for solution with greater force in Southernn India than in other parts of the world await the advent of the investigation. I need only mention diabetes, elephantisis and eclampsia as amongst the foremost requiring investigation. It is our hope that Your Excellency's visit to-day may enable you to throw the weight of your great influence into the balance of Government action and by so doing to help to raise this College and the Professor of Medicine in Southern India to greater heights of public esteem and public usefulness.

His Excellency the Governor, who presided over the function, made an interesting speech in the course of which he said that they had a reminder in the deathrate itself that they had much to do in providing medical assistance. Lord Pentland also said that "if Medical Education is to have its full effect, if the work of those who are working in this College is to bear full fruit, there must be a general and persistent endeavour to raise the level of "general education throughout the Presidency."

S. P. G. College, Trichinopoly

The annual prize giving at this College took place on the 27th January, 1913 with Mr. J. H. Stone, M.A., F.R.H.S., in the Chair, The proceedings opened with the report of the Principal, (Rev. A. F. Gardiner) from which the following is taken :—

This is a notable year in the history of this institution since it is the one hundred and fiftieth anniversary of its foundation. A brief review of its eventful course during the last century and a half will serve, perhaps, as the best introduction to the annual report of the year 1911-12.

The first Society of the Anglican branch of the Church to undertake organized Missionary work in South India was the Society for the Promotion of Christian Knowledge. From the year 1710, this Society contributed liberally to the maintenance of the work of the Danish Mission which had first been sent to Tranquebar in 1705 by H. M. King Frederic IV of Denmark. That Mission ascribed its inspiration to the example set by the S. P. C. in America, and its object was actively promoted by that Society. In 1714, the Danish Missionary, Ziegenbalgh, received a warm welcome and hearty encouragement in England from both Church and Crown. Three years later, he addressed a letter to H. M. King George I reporting the progress of his work and urging the importance and need of its extension.

In the year 1728, the S. P. C. K. opened an independent Mission of its own in Madras, and subsequently established other centres of work in South India. In 1762, the Rev. C F. Schwartz visited Trichinopoly. The Church which he founded stands opposite the Caldwell Hostel for the Christian students of the College, the hostel itself being built on the land which he acquired His house stand close by. It is also recorded in the annals of the S. P. C. K. that a small building was quickly erected to serve as School during the week and as a temporary House of Prayer and Worship on Sundays till the building of Christ Church was completed. This was the seed from which the present Educational institutions of the S. P. G. in Trichinopoly have grown till they are what they are to day.

Founded in the year after the Wars of the Carnatic had been brought to a close, the early days of this institution were passed in stirring times. With the fall of Pondicherry in the previous year, the supremacy of British influence had been finally established in South India, and the Treaty of Paris brought the

struggle between the British and the French to a satisfactory conclusion. Mohammed Ali was recognised as the Nawab of the Carnatic; and this town was placed under his rule. It should be recorded with gratification that this Nawab was one of the earliest and most generous benefactors of this institution.

In 1823, South India still formed part of the Diocese of Calcutta and it was to this fact that Trichinopoly owed the privilege of a visit from the great Dr. Heber, the second Bishop of Calcutta. The effect of that visit upon the fortunes of this institution was of a far-reaching character. In the first place, at that time, the old school buildings were falling into disrepair and were no longer large enough to meet the increasing demands of the people of this town. Bishop Heber expressed an earnest wish, which was noted down two or three hours before his lamentable death, that better buildings with increased accommodation might be provided for these schools, and this was duly effected in memory of his honoured name. In the second place, it was largely owing to the influence of Bishop Heber that the Mission of the S. P. C. K. were handed over to the S. P. G. In 1825 the committee of the S. P. C. K. resolved:

'That this Society do continue to maintain the Missionaries now employed by it in the South of India during the remainder of their lives, and that the management and superintendence of the Missions be transferred to the Society for the Propagation of the Gospel.'

This charge was readily accepted by the S. P. G. the S. P. C. K. continuing to aid liberally in the work of Education. At the time of the transfer the S. P. C.K. were maintaining six European Missionaries, (including the Rev. H. D. Schreyvogel at Trichinopoly) and employing about 150 Indian teachers in their schools which contained about 1,500 pupils.

The development of this institution during the last century was rapid. As a result of Bishop Heber's appeal the old school in the Fort was enlarged and improved so as to constitute a higher grade school with her existing schools affiliated to it as branch schools. As the sphere of education extended, this school was raised to the position of a recognised High School in 1864. In 1867, the institution was still further enlarged and attained the rank of a Second Grade College affiliated to the University of Madras, which had been founded about ten years earlier. In 1883, the present First Grade College was finally established, crowning the whole institution, which now comprises a University College, a High School and three incomplete Secondary Schools affiliated to it.

The S. P. C. K. which founded this institution one hundred and fifty years ago and maintained it for more than half a century in the early stages of its development, still contributes a sum of more than Rs. 3,000 annually towards the education of its Christian scholars, and this year also made a special additional grant of Rs. 3,000 towards the new High School building—very pleasing bonds of union between the Institution and the Society to which it owes its origin.

The last year of the old courses for the B.A Degree Examination has passed and this year, the first examination under the new courses will be held. We regret the virtual disappearance of the vernaculars from the curriculum of studies, but in our opinion, two full years' study is required to do justice to the syllabus of the new B. A. Degree course; consequently it is difficult to see how the vernaculars could be reinstated in it without recasting or extending the whole course. We doubt if this could be satisfactorily effected in the best interest of higher education and at the same time, in such a way as to meet with general approval. The remedy for the present neglect of the vernaculars, which we view with apprehension, probably lies in the restriction of specialization in the earlier stages of a student's course and a proportionately increased attention to his study of the vernacular before he arrives at the Intermediate Examination.

The system of granting admission to University College on the results achieved by candidates under the Secondary School Leaving Certificate Scheme, as an alternative or rather as a substitute, for the Matriculation Examination, promises to be an unqualified success if administered by Principals with due care and discrimination. Two dangers have been apparent from the outset: firstly there is the temptation to some time and trouble by confining attention entirely, or almost entirely, to the marks obtained by a candidate in the Final Examination. Apart from the injustice that such a course of action inflicts upon a candidate, it lowers the dignity of the University, on the one hand, by making matriculation depend simply on a Government, instead of on a University Examination, on the other hand, it lowers the dignity of the Government by disregarding the fundamental principle of its whole scheme of which the final examination is only a part. Secondly, there is the temptation to lower the standard of the test for admission. In some cases we fear, students have been admitted into Colleges who are not qualified to enter upon a University course, and in a year or two, it seems probable that the Senior Intermediate Classes of the University will be choked with "failed Intermediates" many of whom should never have been admitted into a College at all. It is certain that Principals of the leading Colleges will exercise considerable caution before admitting such failed candidates who have appeared for the examination from other Colleges The fate of such students as have been debarred from appearing for the examination will be ever harder.

On the whole, however, as we have said, the change in the method of admission is a change for the better, since undeserved failure in the Matriculation Examination often prevented a student from entering a College when he was well qualified to do so, and on the other hand, a record of a student's work at School in addition to his achievements in a public examination affords the surest test of his merit or demerit.

In 1911-1912, the numbers on the roll of the College again, showed an increase, rising from 323 to 345, the highest figure reached at that time in the history of the College and they give the following totals:—

Hindus	Non-Brahmins	670	or	45 per cent.
	Brahmins	509	or	35 per cent.
Christians		161	or	11 per cent.
Muhammadans		132	or	9 per cent.

It will be observed that this annual report is a record of steady progress in every department of our

work. Our success largely depends upon the loyal and enthusiastic co-operation of the staff in that spirit of fellowship which is fostered by the ancient and honourable traditions of this institution and by the unity of purpose which permeates its activities from the lowest class to the highest. While the prosperity of the institution thus reflects credit upon the whole staff, I may be permitted to express my gratitude in particular to the Directors of the Boards of Studies, the Sub-Wardens and Managers of Hostels, the Superintendent of the Library and Athletics, and in the School Department to the Headmaster of the High School and to the Masters of the Branch Schools.

TECHNICAL EDUCATION

State Technical Scholarships, 1913.

THE Government of Bengal are prepared to receive applications from statutory natives of India,

Bengal

for a State Technical Scholarship tenable in Europe or America for two years, of the value of £150 a year, exclusive of fees payable to the institution where the scholar will study, and travelling expenses. The scholarship will be awarded for Mechanical or Electrical Engineering, and preference will be given to those who have already received the best technical education available in Bengal in one of these subjects. Applications in the prescribed form with testimonials in original should reach the Director of Public Instruction on or before the 25th February 1913. For further particulars the Government Notification No. 133, dated the 7th January 1913, published in the *Calcutta Gazette* of the 8th January 1913, may be referred to.

A state Technical Scholarship will be awarded in this Presidency during the current year for the

Madras

study of the leather goods industry. Candidates desirous of prosecuting the technical study of this industry should submit their applications for the scholarship to the Director of Public Instruction, so as to reach him on or before the 1st March 1913. Other things being equal preference will be given to graduates in arts who have specialized in chemistry. Ordinarily the period for which these scholarships may be held is two years, but in special cases, it may be increased to three years or reduced below two years. The value of the scholarships has been fixed at £150 sterling a year but if in any particular case this amount is found insufficient, the Government will be prepared on good grounds to consider its enhancement. The scholarships are tenable in Great Britian and, with the approval of the Secretary of State, in a foreign country.

EDUCATION ABROAD

Entrance Examinations for universities and Professions in England.

THE bewildering variety of examinations for entrance into Universities and professions in existence in England was the subject of some discussion at the recent Headmasters' Conference held in London. A Resolution was proposed deploring this condition of things and suggesting, as a practical solution of the difficulty, that a uniform school proficiency examination be accepted as a qualification. Mr. R. C. Gilson, in moving the Resolution said that, of 25 exempting bodies, all but eight demanded special subjects. As a net result, while the Oxford senior local certificate could be obtained by passing in five subjects, a student would have to pass in no less than 11 subjects in order to be sure that his certificate would be accepted by all the exempting bodies The Universities, moreover, treated each other's examinations very nearly as cavalierly as examinations of the local type. Only three English Universities would accept unconditionally the matriculation examination of another—Durham, the matriculation examination of an English University; Bristol, the matriculation in a University of the United Kingdom; Oxford, the previous examination of the University of Cambridge. The present system involved the following disadvatages:—(1) Restriction of curriculum; (2) restriction of the teaching methods and of educational experiment; (3) premature disintegration of classes (4) disregard of certain aspects of school life by most of the external examinations; (5) insufficient consultation of the teacher, (6) absence of any sound criterion by which school may be judged by the public; (7) physical and mental overstrain caused by multiplicity of examinations; and lastly, the universities and the professions defeated their own ends by their demands upon the schools. No university or Civil Service Commissioner really wanted a "crammed" boy, yet many of these examinations, almost inevitably produced "cramming." This state of things ought to stop. An end must be put to a complication which had become not only an absurdity, but a disastrous absurdity.

A Teacher's Laboratory.

The interest of German professors and teachers in scientific investigations relating to their profession in shown by their support of an institute for experimental Pedagogy and Psychology at Leipzig The institute has completed its 5th year and its history for that time is one of ever increasing activity and support. The number of its active members in

1906 was 47; in 1907, 70; in 1908, 85; in 1909, 114; in 1910, 131. The last number included 92 teachers engaged in the Leipzig school, 14 teachers from other places, 2 school directors, 2 professors in colleges for teachers, 1 teacher from each of the following countries, Finland, Sweden, Russia, Austria, Switzerland, and 3 from England; also 5 University professors, 6 students of pedagogy, 1 official, and 1 minister. In addition to the number pursuing investigations and studies in the institute, it has many passive members who annually contribute to its support 20 marks ($5·00) and upwards. The number of these contributors at present, is 53 including many University professors, among them Wilhelm Ostwald.

As stated in the prospectus of the institute, its purpose is that of training its members in the methods and principles of experimental pedagogy and psychology, and of forming a centre for independent scientific work relating to both divisions of its subject. That its value is appreciated outside its particular field is shown by the action of a contributor who accompanied his offering with the following statement: "As a Herbatian, I am naturally unable to declare myself a follower of the experimental methods, but I believe that teachers should support every method which is intended to establish a scientific basis for pedagogy. It is also important on the other hand that the experimental method should show whether it has any real value for pedagogy." [From "Education".]

Decline of Illiteracy in the United States.
Percents of illiterates. *

	1900	1910
Native whites	4·6	3·0
Foreign born whites	12·9	12·8
Colored	44·5	30·5
Total population	10·7	7·7

* Persons 10 years of age or over have been considered in this enumeration. ["Education".]

COST OF COLLEGE EDUCATION

Following is a table giving the percentage increase in tuition and board in some of the eastern colleges in U. S. A. since 1812.

	Board	Tuition
Amherst	18	27
Columbia, ...	—	0
Dartmouth, ...	50	46
Harvard, ...	22	0
Princeton, ...	35	6
Smith, ...	0	50
Tufts, ...	33	25
Vassar, ...	16	200
Wellesley, ...	30	16
Williams, ...	50	33
Yale	—	0

WHAT OUR STUDENTS ARE DOING ABROAD

Indian Successes at the Bar Final Examination.

The following Indian and Burman gentlemen were successful in the Final Examination of students of the Inns of Court, held in the Middle Temple Hall on December 16, 17, 18, 19 and 20.

[L. I., denotes Lincoln's Inn, I. T. Inner Temple, M. T. Middle Temple, and G. I. Gray's Inn]:—

Class I (in order of merit):—Krishnan Krishnan Pandalai, M. T. (2nd); Bimal Chandra Ghose, M. T. (3rd); Maung Thein Maung, L. I. (4th); Khushal Tolaksi Shah, G. I. (7th). All four are awarded certificates of honour. Class II (in order of merit): Maganbhai Chaturbhai Patel, L. I. (2nd); Sudhir Chandra Ray, I. T. (7th); Naung Ko Ko Gyi, I. T. (12th); Ramanny Menon Palar, I. T. and Rajendra Lal Roy, L. I. (equal 13th). Class III (in alphabetical order).—Patrick Mahomed Hosein Allahar, G. I.; Maung Ba Kya, L. I.; Ba Kyin, I. T.; Ba U., M. T.; Ram Kelawon Boodhun and Lal Mohun Vivian Bose, M. T.; Vithal Narayan Chandavarkar, L. I.; Sadiq Hasan, G. I.; Chandra Kumar Hazra, L. I.; Habib Ullah Khan, L. I.; Mir Anwaruddin and Syed Muniuddin, L. I.; Mian Muhammad Rafi, M. T.; Muniswamappa Ramaswami, L. I.: Surendra Narayan Ray, M. T.; Susil Prasad Sarbadhikari, L. I.; Ajab Singh and Narotam Singh, L. I.; Ganapathy Somasundarum, M. T.; Harischadra Anandrao Talcherkar and Fredoon Firoze Tarapore, M. T.

Indian Students at Glasgow and Edinburgh.

IN the House of Commons, Mr. Watt asked a question drawing attention to a meeting at which

Glasgow

90 per cent. of the enrolled Indian students at Glasgow University had passed a unanimous resolution protesting against the institution of a caretaker and adviser for Indian students. Mr. Harold Baker said that from enquiries made, Lord Crewe was satisfied that the appointment of a local adviser in Glasgow was desirable and would be welcomed by the University authorities.

A meeting of Indian students at Edinburgh passed a resolution strongly protesting against

Edinburgh

the reported decision of the India Office to place them under the guardian-ship of its official representative as not only implying inablility on their part to take care of themselves but also as a reflection on the disciplinary vigilance of the university. The resolution also expressed the hope that the University would maintain its traditional just attitude in protecting the independence of Indian students from official interference. It was resolved to notify Lord Crewe of the resolution.

THE PLAY-MOTIVE IN THE HIGHER CLASSES OF THE SCHOOL.

By T. PERCY NUNN, Esq. M. A., D. Sc.
London Day Training College.

I cannot claim that I have discovered a new subject upon which to address you. The wisdom of our ancestors long ago ascribed to play at least the negative educational function of preventing Jack from becoming a dull boy. Every human mother, since first there were human mothers, has known that it is also a means of positive instruction far more effective at a certain stage than any other. Moreover, the well worn saying which connects the field of Waterloo with the playing-fields of Eton is evidence of a belief that its educational importance is not exhausted in early childhood. I have indeed, seen an ingenious program in which provision is made for teaching boys and girls all they know and all they need to know by the one medium of organized play.

The very fact that a member of our profession could seriously propose a scheme so shocking to common sense compels us to recognize not only that play has teaching value, but also that its use must be regulated by a definite rational theory. Here, again, I am speaking of no new thing. Mr. W. H. Winch published, a few years ago * two papers in which he passed in review a number of theories of play, and added interesting and important observations of his own; and even this catalogue does not include all the views which have a claim to be considered as original.

The abundance of these theories some definitely contradictory of others, some merely supplementary—provokes the suspicion that the phenomena of play are much more complex and obscure than the casual observer would suppose. Careful observation confirms this suspicion, and will probably lead the inquirer to two conclusions first, that elements which, if not identical with play, are at least organically related to it, enter in a most subtle manner into a very large part of our serious lives; and, secondly, that it is doubtful whether any single theory of these pervasive and Protean elements is possible. I propose to accept both of these positions in this paper. I shall not assume that play is a distinct and homogeneous kind of behaviour which can be distinguished at a glance from what is not play; and I shall welcome help towards the understanding of our subject from any quarter where it is offered.

Play has, in fact, been an object of investigation from four distinct points of view in addition to that of the teacher—namely, the points of view of the physiologist, the biologist, the psychologist, and the philosopher. From the physiological point of view, the human organism is regarded simply as a cunningly fashioned machine. Play must in this case be thought of merely as a special way in which the mechanism sometimes works. Two questions thus naturally arise: (1) What are the conditions under which this particular action of the machinery occurs? and (2) what effect (if any) has it upon the mechanism?

From the biological point of view the human being is regarded as an animal born into an environment in which he must somehow establish and maintain himself. The question about play now takes the form of an inquiry into its "survival value." That is to say, we ask whether it can be explained, on the principle of natural selection, as performing some definite service in the secular struggle for existence.

The theorist who occupies either of the foregoing points of view necessarily studies the player and his play from without. The psychological point of view is that of a theorist who is himself the player whose activity he is seeking to describe. The questions which the observer puts to himself in this case are: What is the nature of play as an experience? how does it differ from other forms of experience? and under what psychological conditions does it arise?

Lastly, the philosopher also is concerned with play as a form of experience, but his concern is very different from that of the psychologist. His problem is the nature of the relation between experience and the realities with which experience professes to make us acquainted. From this point of view, play—if only on account of the curious way in which it seems to fuse reality and illusion—is a phenomenon whose significance cannot be neglected.

I. PHYSIOLOGICAL THEORIES OF PLAY.

(*a*) *Play as Superfluous Energy.*—The strictly practical aim of our inquiry makes it unnecessary to trouble the seclusion of the philosopher by our questions. On the other hand, we cannot dispense with the help of the physiologist, the biologist, and the psychologist.

The most important contribution to our subject from the standpoint of physiology is the idea that play is an expression of superfluous energy. The physiological machine derives from food more energy than is necessary for the performance of its essential functions, and it uses the unessential activities of play as a means of disposing of the excess. On this view play is justly likened to the "letting off steam" of the locomotive which has taken from the coal more energy than is needed to drive the train.

Expressed in this simple form, the "superfluous energy" theory—which is generally connected

* "Psychology and Philosophy of Play" (*Mind*, N. S., Vol. XV).

with the names of the poet Schiller and our own Herbert Spencer—accounts for many of the obvious phenomena of play. It explains, for instance, the prodigal outpouring of energy that is to be seen—and heard—in any school playground when children are released from the confinement of the desk. It explains, too, why my audience, when they are freed from this lecture, will probably not offer a similar spectacle to the inhabitants of Bloomsbury Square. Childhood is the time when the physiological machine is busiest in the conversion of energy, and also the time when there is least to be done with it. In the adult the mechanism of conversion has settled down to a steady pace at which it supplies just about enough for our actual needs.

The comparison of the child at play with the engine blowing off steam is defective in one important respect. However firmly you insist upon regarding a child as a piece of mechanism, you must recognize that his machinery is physiological, and therefore essentially more than a cunning combination of physical and chemical factors. The physiological machine, *grows* as it works, and its working may have a direct effect upon its growth. In a modern railway engine some of the energy not actually needed for locomotion is utilized in exhausting the vacuum brakes, in warming the carriages, &c. Without much extravagance of fancy we may suppose this use of superfluous energy to be extended. For example, the driver, instead of blowing off steam in a railway station, might direct it to a small rotary press, and print off a few copies of next month's timetable. But the liveliest imagination will not enable us to think of the superfluous steam as used to enlarge the cylinders or to improve the adjustments that lead to economy of fuel. Yet in the physiological machine the superfluous energy may be utilized for purposes strictly comparable with these. In other words, play is an activity of the physiological machine which may be turned to the improvement of the mechanism which produces it.

We reach here the first important pedagogical conclusion from the theory of play. You will say, perhaps, that there is no striking novelty in it. No one needs telling that games are a good thing for the health of a child and make him skilful and graceful and physically alert. Granting this, it is, nevertheless, useful to see that the virtue of athletic games depends upon a definite property of the physiological machine which may be utilized for similar purposes in very different circumstances. We may safely conclude, for example, that no teaching which aims at disciplining the bodily activities can reach the maximum of efficiency unless it draws upon the energy which Nature has earmarked for such purposes and releases only in the form of play.

The foregoing doctrine has an obvious bearing upon the cultivation of all forms of skill, from the massive movements of gymnastics to the finer neuro-muscular adjustments involved in writing, drawing, and the use of tools. It is capable also of a subtler application upon which, since it is less widely recognized, I wish to lay more emphasis. Let us suppose that we could have watched the development of one of the crafts to which the primitive masters of mankind devoted their genius: for example, the manufacture of flint weapons or of earthen pots. However great the ability that was brought to bear upon those inventions—and without question it was exceedingly great—there can be little doubt that the bare solution of the problems they present absorbed it all. The first spear-head was *merely* a thing which would pierce the body of a beast or a foe; the first pot was *merely* a thing that would hold water and resist heat. But, as repetition of the process brought skill and mastery over the materials, the bare solution of the problem demanded less and less energy, and more was available for other purposes. In what form did this superfluous energy express itself? The theory now before us teaches that it took the mysterious form of *beauty*. The flint weapon, the pot, became more than a mere weapon, a mere pot; they became beautiful.

Upon this view, then beauty in craftsmanship is a play-phenomenon; it is the inevitable expression of the delight of the maker in the process which he has learnt to perform with the ease of mastery, in the task to which he brings more than the minimum of energy needed for the performance. It is unnecessary to remind you of the far-reaching deductions which William Morris and other writers have drawn from what is practically this identical theory of beauty in craftsmanship. It will suffice to point out its great importance in connexion with a sadly neglected side of school instruction. If this theory is sound, the power to produce beauty is not a gift grudgingly given by the gods to a mere sprinkling of fortunate human beings; it is a power which will no doubt vary in strength from individual to individual like other powers, but is essentially as universal as the power to do arithmetic. Let boys and girls make under conditions which stimulate the natural flow of energy, let them acquire by pleasant repetition the mastery which enables them to *play* with their materials, and beauty will inevitably appear—though in varied measure—in the things which they create.

(*b*) *Play as Recreation.*—Far-reaching as the Schiller-Spencer theory of play is seen to be, it does not cover all the ground. Think of the weary child who forgets his aching legs when the monoto-

nous walk is turned into a game of hide-and-seek or the tired man who returns to his work refreshed from a game of billiards or cards. It is clear that play is in these cases not a channel of discharge for superfluous energy, but a means by which new energy is placed at the disposal of the physiological machine. According to the common explanation, the efficacy of such "recreative" play lies in the fact that it uses the energy of fresh tracts of the nervous system and gives the exhausted tracts time to get rid of the chemical poisons which have accumulated in them and to make good their losses by anabolism. The examples I have chosen, especially the former, show that this explanation is quite insufficient. Under the influence of play, the child not only continues the activity which had wearied him, but actually puts twice as much vigour into it.

I venture to think that a better explanation will be found in one of the many profound and illuminating ideas which psychology and education owe to Mr. William McDougall. In a notable study of fatigue,* Mr. McDougall quotes instances to prove that the energy which we can expend upon a certain kind of work is not necessarily limited to the energy resident in the nervous machinery which is directly concerned in its production. Many cases of long-sustained activity would be unintelligible unless we could suppose that the brain structures involved in them import energy from sources outside themselves. Further, he identifies these sources with certain structures whose functioning is believed to be necessary to the manifestation of the innate "dispositions" or "instincts" which are the great springs of behaviour both in beasts and men. My suggestion is that in recreative play we have phenomena essentially the same as those which Mr. McDougall describes. The task which the appropriate physiological mechanism has insufficient energy to perform is conquered by means of energy drawn from the great reservoirs of the instincts. So the hardships of a river picnic may be endured joyfully by virtue of the energy derived from a mild and perfectly conscious flirtation. So the boy at the bottom of the class can perform prodigies of learning when he is fighting for his "side" in a Latin match between opposing teams.

II.—Biological Theories of Play.

In turning to the consideration of biological theories of play, we need not leave behind what we have learnt from the physiological standpoint. We shall do well still to hold fast to the idea that play is the expression of a quantity of disposable energy—disposable either because the organism has more superficial energy than it needs to meet the bare requirements of the moment, or because it has been drawn from deep lying regions of the organism which are not themselves seriously engaged. The questions that the biologist puts to himself concern the typical forms of expression which this disposable energy assumes, and the possibility of accounting for them upon evolutionary principles.

There are two answers to these questions—both so well known that I may deal with them briefly. We owe one to Prof. Karl Groos † and the other to Prof. Stanley Hall ‡. Groos's theory is based upon two observations. He notes first that play is a phenomenon confined to those animals which at birth are so insufficiently developed that they cannot face the difficulties of life without the help and protection of their parents. The puppy, born blind and helpless, enjoys some months of undiluted play: the chick, who, a few minutes after he is hatched, can pick up a grain of rice or tackle a worm, affects *ab ovo* an almost puritanical severity of manner and life. Secondly, he bids us observe that when the animal plays he always imitates in sport what will be the serious activities of his adult days. The kitten hunts a ball of wool as he will later hunt a mouse; the puppy chases and dodges his brother as he will some day chase and dodge his prey or his foe. When these facts have once been perceived, the interpretation is easy. A playful youth is a biological device to secure to the higher animals an efficient equipment for the battle of life. "It is not so true," says Groos epigrammatically, "that animals play while they are young as that they are young so long as it is necessary for them to play," in order to prepare themselves for the serious business of adult life. In other words, Nature arranges in some species not only that during the early days of their existence they shall have fairly constantly a surplus of disposable energy, but also that it shall be expressed in behaviour which will serve as a useful rehearsal of the adult activities of the species.

There is no difficulty in extending this explanation to the play of childhood. The devotion of the little girl to her doll is the capital instance of a playful activity which is plainly anticipatory of the serious business of adult life. A similar interpretation may be applied to other games, which recur with unbroken regularity in every generation and among children of every colour. There is, however, in respect of play, as in respect of all mental phenomena, a great and most important difference between man and the lower animals. The adult activities of these are relatively few and relatively constant in pattern. Consequently the play of each species is stereotyped and shows little variety. On

* "Report of the British Association," 1908.

† "The Play of Animals," 1896, and "The Play of Man," 1898.

‡ "Adolescence," Vol. I, Chap. III.

experiences, to enlarge his soul by experiments in a thousand ways of life. Insanity is a phenomenon of shrinkage, of decay; the child's "make-believe" is a phenomenon of expansion, of growth.

(*b*) *Play in Later Life.*—As the shades of the prison house of reality close round the growing boy, the foregoing analysis ceases to give an accurate picture of his mental life. His ideas tend to become ever more congruent with the facts of the external world. Instead of controlling, they become themselves controlled. Does this statement imply that the impulse which expressed itself in "make believe" play now fails, or that the expression is translated into other forms? To a certain extent both these things happen. As our serious activities increase and consolidate, we have no doubt a smaller overplus of energy to expend upon play. Having performed its biological function of urging us to the discovery of life and our own potentialities for living, much of this overflow of mental energy rejoins the main stream. Again, much of it settles down into regular channels of flow. The boy who has left "make-believe" far behind plays his daily game of cricket: the man who has no scrap of imagination left in him goes every Saturday round the golf links.

Notwithstanding these facts, a portion of the talismanic element still remains, and, as of old, interpenetrates and impregnates almost the whole of our mental processes. Mr. F. H. Bradley, in one of the most valuable of his recent papers,* has demonstrated the falsity of the antithesis commonly supposed to exist between *play* and *work*. If the word "work" be taken to imply more or less strenuous activity directed towards a definite end, then it is obvious that some of the hardest work may be done in play. There is, however, something to be said for defining "work" so that it becomes antithetical, not to "play" but to "game." In this case "work" would imply activity pursued for the sake of a product of definite and permanent value; a "game" would be a form of activity whose value perishes with itself. The subtle-minded hearer may amuse himself by debating the usefulness and stability of this distinction. Meanwhile we may pass on to note with Mr. Bradley that, whether we consider games or work, all human activity is the product of two factors. One factor consists in the conditions which are imposed on the agent *ab extra*. The other factor is the spontaneity of the agent. The difference between these factors appears readily in the analysis of any activity—for example, eating one's dinner. The mainspring of this activity is obviously an imperative, which no one can ignore and live. Nature says: Thou shalt eat. But she leaves a fortunate minority of us considerable freedom to choose the matter and the manner of our eating. We may dine—in slippers and an easy jacket—on a chop at home, or we may go forth in state to an eight-course banquet at the Savoy. The boundary between spontaneity and external constraint shifts, of course, from case to case. At the gorgeous tables of the Savoy there may be many hankerers after the simple life. They hate the *Persicos adparatus*, but their circumstances of life cause these to be among the unalterable conditions of dining.

In this illustration the external constraint is ultimate. I need not necessarily eat here or thus, but eat somewhere and somehow I surely must. In other forms of activity the constraint which limits the activity is not ultimate. Thus, if I play football or auction bridge, I am bound by the rules of the game; but the acceptance of the rules is itself voluntary. I can escape them by standing out of the game or by persuading my companions to adopt a new code. But if I decide to "play the game," my spontaneity must limit itself to the operations of attack, defence, and finesse which the rules sanction and the tactics of my opponents leave possible. Similarly, if I decide to fill the role of Hamlet in a performance of the tragedy, Shakespeare's text becomes a condition of restraint, and spontaneity is limited to the expression of an "interpretation" of the poet's lines. These distinctions seem trivial, but they are, nevertheless, worthy of attention. Set the diner at the Savoy beside Stevenson engaged upon that romantic calves' feet jelly; compare the impersonator of Hamlet with the little *campeador* skirmishing valiantly with the coal scuttle, and you will see the behaviour of the man is in each case the lineal descendant of the behaviour of the child. You will agree with Mr. Bradley that the essential psychological element in play is not "make-believe," but just that spontaneity which, as we commonly say, "plays" freely with the external conditions of the activity and uses them for issues determined from within. Thus, you will reach the illuminating idea that the intellectual play of children is not a fairy gift which disappears as the visions of six fade into the common day of sixteen, but that its essential characters remain, though their form of combination changes under the influence of the discipline of experience.

IV. Pedagogical Applications.

Though I have touched only upon the most obvious aspects of the problem of play, you may wonder if I have left myself time to say anything which can justify the title of my paper; and, indeed, I cannot hope to do more than to show in a general way the bearing of theories of play upon

* "On Floating Ideas and the Imaginary" (*Mind*, N. S., No. 60).

the instruction of older boys and girls and to make my contentions plain by a few illustrations. I should feel more compunction if this were not a case in which it is important to explain and advocate an attitude rather than to formulate a program.

The intellectual play of young children is overt; its pedagogical possibilities have been successfully explored by Froebel and his disciples. The intellectual play-impulse of older boys and girls is largely concealed—even from themselves—and has rarely been systematically exploited by teachers. No doubt every good teacher appeals to it from time to time, but too often with an uncomfortable feeling that he is using a dubious, if not actually unprofessional, mode of procedure. The advantages of having a theory of the subject are that it helps one to get the most good out of one's casual professional experiences, indicates the most profitable lines for experiment, and emboldens one to persevere in pedagogical adventures which if they do not lead to El Dorado, may yet bring in a substantial return upon the intellectual capital invested.

It is important, therefore, to bear in mind the main conclusions of our analysis of play. We have seen that it is always the expression of free or disposable energy which either represents the floating balance of food energy converted over that consumed by the physiological machine in the performance of its routine work, or else is derived specially from reservoirs of energy connected with the fundamental instincts. We have seen that, whether mainly intellectual or mainly the expression of racial motor memories, play always looks forward to the needs of adult life. We have seen that it is a kind of experience which is correlated with the outpouring of disposable energy and is determined in direction in accordance with Groos's biological law. Lastly, we have seen that it is to be identified with the intellectual spontaneity which reacts in different ways at different ages upon the conditions of constraint imposed by the world and other external forces. It is important, too, to realize the general manner in which the relation between the element of spontaneity and the constraining elements changes as the child grows older. As our examples show, the change consists in a gradually increasing approximation or congruence between the ideas which express the spontaneity of the child and the hard facts which are the conditions limiting his activity. Thus the child who begins by looking for fairy palaces in calves'-feet jelly may end by discovering important new truths about the physics of jellies—and the last enterprise equally with the first may contain the essential elements of intellectual play. The teacher who understands this development will probably *not* seek to teach quadratic equations by means of some variant of "Chevy Chace."

In all applications of this theory it must first be remembered that the energy of play shows itself only where there is some room for spontaneity—some opportunity for the pupil to colour the business in hand with his own individuality. I have already dwelt upon this truth in one important connexion—namely the cultivation of the power to produce beauty. The principle is, I believe, equally fertile in other subjects of instruction. How long is the tale of students of all magnitudes, from the mighty Darwin downwards who learnt little or nothing at school simply because the instruction never drew upon the energy which expresses itself in the spontaneity of the pupil! Undoubtedly this doctrine supports those who would adapt the curriculum to the varying intellectual tendencies of the pupils when these are sufficiently pronounced. But I would lay more stress upon the practical and practicable deduction that methods of instruction should always be so chosen that they leave room for some small element of choice: some room for the free play of the pupil's individuality. In literature, in history, in geography, in science, and even in mathematics, methods are nowadays available which offer to the individual student this freedom of intellectual movement, and our theory indicates that such methods are based upon a sound psychological principle.

Secondly, it should be observed that the conception of spontaneity as an expression of disposable energy involves the idea of mastery over the materials in the use of which the spontaneity is to be displayed. There is, perhaps, no reason for limiting the ever-growing curriculum so important as this: that, unless the pupil can obtain by familiarity and repetition a real mastery over the details of his studies, he cannot possibly use those studies as a medium for the expression of spontaneity—that is, they lose the greatest part of their value as a means of building up his individuality.

In the next place it should be noted that the notion that spontaneity must be present by no means implies that constraint must be absent. As we have seen, the direction of natural intellectual development is towards a closer relation between the spontaneity of the individual and the conditions which constrain it not to the suppression of either of these factors nor to a cleavage between them. Thus, our doctrine, properly understood, tends neither to "softness" nor to anarchy. There is no antagonism between the conception of spontaneity and the conception of "discipline." The composition of, say, a successful *rondeau redouble* involves a notable degree of spontaneity, but it

is certainly neither an easy nor an undisciplined performance.

Fourthly, we must remember that, on the intellectual plane, the energy of the play-motive expresses itself as an appetite for experience—a restless experimenting with life. I believe that the full admission of this principle will transform a great part of our teaching methods. In the young child the experimenting takes the overt form of "make-believe" play. We have to recognize that with older children and adolescents it is still there, but in subtler forms—first the love of the romance of exploration and adventure, later the vivid interest of the adolescent in the broader forms of human work and occupation. Teaching methods must be sought in every subject which will both engage at each level as much as possible of the energy which the play-motive sets free, and will also assist the process of development which leads from one level to the next. The Boy Scout movement has given an almost perfect illustration of the solution of the problem for a certain stage of development —the stage at which make-believe has not yet ceased to be a natural form of expression of the play-energy, while the individual elements in the experience have been largely disciplined into congruence with reality. I feel a pang of regret and shame whenever I remember that this great pedagogical discovery was made not by a schoolmaster but by a layman, who simply retained, like Stevenson, a vivid memory of his own intellectual growth and was bold enough to believe that a method of of instruction which makes use of the boy's natural intellectual energy is the only method that can achieve truly satisfactory results.

My one fear with regard to the Boy Scout movement—it is, perhaps, presumptuous to express it on the basis of a very small experience—is lest by the very strength of its appeal at one level of the boy's mental development it should hinder his progress to the next higher level. "Make-believe" at the level where it is the natural expression of the play-impulse is not acting, but it becomes acting at a higher stage—that is, it becomes *pro tanto* an artificial life, which, if it is lived on a large enough scale, may seriously weaken the main current of intellectual energy.

For this reason, I welcome attempts—such as I have seen described during the last few days—to accentuate the intellectual side of the Boy Scout game by "Boy Scout classes" in mathematics and other subjects. I feel confident that topics selected for their relevance to the Boy Scout idea will be quite the most suitable for study at that stage; but I also believe that such studies will form the best means of weaning the boy who remains at school from elements in the Scout program which will no longer be sources of strength and progress.

Broadly speaking, the aim of much of his studies should now be to gain a sympathetic knowledge of those phases of human labour and effort which have most significance for civilization as a whole. Most, if not all, of the school subjects lend themselves easily to the type of treatment implied by this ideal. Mathematics and science are not exceptions, although they are subjects in which the traditional instruction has hitherto been farthest from that which I have in view. There is no reason, for example, why mathematics should not be taught systematically as a means necessary for appreciating the main results of human industry and invention, including those embodied in the mechanism of commerce and the financial machinery of civic and national life.

Teaching given in the spirit which I have tried to indicate makes as direct an appeal to the play motive in the adolescent as the invitation to "make believe" does to the same motive in the young child. The difference is merely that the motive shows itself at the later age as a force urging the boy to identify himself in imagination with the great forms of human occupation and effort which are presented to him. Such a conception of the proper method of instruction differs, of course, fundamentally from the old conception of study as a mental discipline. Nevertheless, I would submit that it preserves all that is really sound in that traditional notion. The boy who is striving to enter into the spirit of the navigator, the man of science, the engineer, the scientific explorer, the controller of a great bank or a great city, is submitting his mind to real discipline—that is to say, his ideas and methods of intellectual work are being formed upon sound and effective models. In ultimate analysis there is no other basis of mental discipline than this—the voluntary effort of the pupil to assimilate the master's habits of thought and work. To force a boy's thinking along lines which are unnatural to him and hardly intelligible, is not to give him discipline, however perfect the form of the thinking may be. The spontaneous movement of the mind must be there, stretching out to grasp and to assimilate; and the play-motive, in its various forms, is the most constant and trustworthy source of spontaneity to which we can appeal.

A final paragraph must suffice to indicate the final trend of my argument. We have seen that the "make-believe" activity which largely ignores the actuality of the world, moulding it nearer to the heart's desire, becomes developed and disciplined into the tendency to understand the fundamentally important types of human life and action by close attention to the actual conditions under which they

are pursued. The last stage of this process should bring the pupil to a stage at which he comes into actual contact with one of these ways of life—a stage at which the play-energy should show itself typically as a fight for mastery over the conditions by which this way of life is limited and controlled. At the end of so long a paper I can ask you to listen to nothing upon this head beyond a bare confession of faith in the soundness of the final conclusion to which our examination of the play-motive leads—that is, an acknowledgment of my belief that no boy or girl should leave our schools or colleges who has not been fitted by direction, training, and instruction to sustain some definite role in great play of life.

T. PERCY NUNN.

The Teaching of Morals in the class room.

SOME of the present day educationists have brought themselves face to face with a number of great educational problems which demand a whole-time attention, for an effective solution. Among other things, the question of the teaching of morals to the young children is gaining greater and greater ground every day. The nearer the problem is to them, the more difficult seems to be its solution.

Various methods have been suggested from different quarters, and each one of them is put to a severe test by being applied in practice. The moment a solution is proposed it is sure to be welcomed on all hands in some quarter or other. Speakers hail it from the platforms, and writers extol it in the columns of journals. The majority of such speakers and writers do not seem to have spent a moment or two, at least, over a thought about its practicability, but they seem to have simply relied upon the words of the proposer. Perhaps this is the fashion of the day—not to spend a serious moment over a new problem but to echo the opinions of one or two of the so-called educationists. Such is the turn that some of the educational problems are now taking.

Religious instructions are forwarded as one of the surest ways of inculcating morals upon the young children, and many of the institutions are turning their attention in that direction. The pandits of some of the Hindu institutions, who seem to have claimed the right of instruction in this line for themselves, are picking out a few slokas here and there, and are thrusting them upon the young children. They have to memorise such slokas and repeat them at the beginning and at the end of the day's work; while some other pandits select a story or two from the Puranas and spend a few minutes in giving them out to the class and in searching after the moral hidden therein.

While such is the case in the Hindu institutions, the Christian Missionaries are not idle in their own spheres. Their institutions allot an hour or two in the day for the reading of the Holy Bible. The other religionists have copied and applied these methods to their own circles.

Unsatisfied with these activities, some of our educationists strongly advocate the teaching of morals in the form of abstract lectures. In the composition classes and in the debating societies attached to the schools, this must form the subject of discussion. They are of opinion that special committees must be appointed to examine the moral tone of the institutions and to suggest various methods for its steady upkeep. There are others again, who insist upon the teachers' good example. Of course, this is the best of all the so-called methods of instruction of morals.

Many of these reformers seem to think that the institutions are wholly responsible for the moral upkeep or otherwise of the children under their roofs. Perhaps they forget that, only for 5 or 6 hours of the whole day, the children are under their direct supervision. The rest of the time they spend in their home circles. The parents are as much responsible, if not more, as the institutions themselves, for the moral instruction of the children. Of course something may be done by the institutions but that something is not in the form of abstract lectures on morals.

The surest way, and the only way, of impressing upon the young minds the principles of morals is to improve the instruction of the subjects of study. These subjects, if properly taught, are sure to serve our purpose. Mathematics, for instance, leads them to be honest, truthful, and self-confident. History, being but a chain of biographies of great men and women, with their successes and failures, can not but be a source of inspiration to many of our young friends. Nature study will disclose to them the ever increasing wonder of the universe. In science, they may know what the love of truth is and how to search after it. In Literature, they will find the whole world reflected as in a plain mirror. Virtue and vice, sympathy and hard-heartedness, love and hatred, and several such conflicting abstract qualities appear in flesh and blood. More than all, the organised games of the institutions cannot but teach our children co-operation and common interest.

When such is the training properly expected from the subjects of study, where is the necessity for a special moral instruction in our schools? The abstract essays on moral principles can in no way elevate the moral tone. Tell a child that an act is immoral, you are only rousing his idle curiosity to test if it is exactly so. Children must not be told what is bad but must always be led to

what is good. If the sacred writings are brought in for moral instructions, as recommended by some of our educationists, their sacredness is lost sight of and they are made objects of fun in the class room. The very purpose of the writers is thrown in the back ground. Only when children feel for the necessity of such study, these writings must find a place in the class instruction. Otherwise, they should be left unmolested.

Once again, we should like to lay stress upon the fact that no amount of lectures on abstract morals can elevate the moral tone of the institutions, and that, therefore, the educationist should turn his attention to the proper teaching of the various subjects in the curriculum and to the introduction and improvement of the organised games, for the influence they exercise over the moral tone.

K. KRISHNAMACHARIAR.

Saidapet, Madras.

Analysis of Edible oils and fats.

The chemical analyst encounter with the most difficulty in the analysis of oils and fats, because the various Physical and Chemical constants, by which the analyst judges as to the nature and purity of the oil or fat, differ within such wide limits that it is not easy to prescribe any absolute standards. There are many elements which cause this variation, the principal ones are ;—

(1) In vegetable oils the large numbers of fruits and seeds from which each oil in different localities are obtained as well as the various grades of refining.

(2) In the case of animal fats, butter and lard, though the latter is not edible by us Hindus, the kind of food fed to the animals influences the constant of fats materially.

(3) In both oils and fats much depends upon the age of the same.

(4) The oils and fats kept in the conditions as to temperature, exposure to moisture, light, air etc., have some influence in the results of analysis.

I would not like to go into any detail about the chemistry of fats and oils, but it should be remembered that all the glycerides of fatty acids are fats. It should be pointed out here the difference between the oils, fats and waxes.

The name "oil" as understood generally has no very strict chemical significance. It is not only applied to liquid fats, but also to other substances, such as mineral and essential oils, which are similar in some physical properties, but entirely different in chemical constitution.

Fats, as has been said, are the glycerides of the fatty acids with monoatomic alcohols of high molecular weight. Among the esters found in waxes the following are more common ; cetyl palmitate in spermaceti ; myricyl palmitate in beeswax ; dode catyl obate in sperm oil.

The following are the more common physical and chemical constants applied in analysis.

(1) Saponification Number.
(2) Iodine Number.
(3) Specific Gravity.
(4) Index of Refraction at 15·5°C.
(5) Maumene Number or specific temperature reaction.

The detals of how to obtain these constants may be found in any book on oil and fat analysis such as in Lench, Allen, Leukowitsch and in others.

Below is given a table of the more common edible oils and fats used in our country as well as of some of the common adulterants used :—

SUBSTANCE	SAPONIFICATION NUMBER	IODINE NUMBER	SP. GR. AT 15·5°C	INDEX OF REFRACTION
Coconaut Oil ...	246-268	6 10	·9245	1.438
Butter Fat ...	220-236	26-38	·936-·940	1·445-1·449
Palm Oil ...	196-206	50-57	·921-·925	1·450-1·452
Mutton Tallow ...	192-196	32-45	·858-·860	1·45[illegible]
Lard ...	193-198	50-70	·931-·936	1·450-1·454
Cotton seed Stearin ...	193-196	85-100	·919-·923	
Linseed Oil ...	188-196	170-200	·931-·937	1·482-1·485
Sesame Oil ...	187-195	103-112	·920-·925	1·474-1·476
Cottonseed Oil ...	190-197	104-116	·920-·925	1.4735-1·476
Mustard Oil ...	170-180	92-115	·912-·920	1·474-1·476
Almond Oil ...	188-195	93-102	·915-·920	1·472-1·475
Peanut Oil ...	186-196	87-100	·915-·921	1·471-1·475
Olive Oil ...	186-196	79-90	·915-·918	1·470-1·472
Castor Oil ...	173-186	82-90	·960-·670	1.479-1·481
Mineral Oil ...	0	0-15	·78-·92	1·434-1·507

N. B.—The table is taken from Sherman's organic analysis—omitting some and also making some addition from Lewkowitsch.

Now there are some qualitative tests for a very few oils by which they can be identified. These oils are particularly—Sesame oil; Cottonseed oil; Peanut oil. For the detection of these oils any standard book on oil analysis may be consulted.

In Bengal, where, mustard oil the most common oil used in everyday cooking. is adulterated with castor oil and possibly also with Peanut oil. These adulterations can easily be detected by applying the qualitative tests for Peanut oil. As for castor oil it can be quantitatively determined by applying a very simple physical method of analysis. It is a known fact that all fixed oils are insoluble in alcohol with the exceptions of Castor oil. Now taking a given quantity of the oil in question and alcohol (pure) and shaking thoroughly the Castor oil is dissolved. Now by evaporating the mixture of alcohol and oil we get a volume which would be less than the original sample taken, if castor oil was present. Now by simple calculation we can find out the percentage of castor oil added.

In our country the various so-called thin transparent hair oils generally contain some mineral oil the detection of which can be easily done by physical and chemical constants.

Only the superficial points of oil analysis have been touched here. In a subsequent paper I intend to deal with the analysis of butter fat.

In the United States there is law in every state to check any adulterations of any food stuffs but there is no such thing in our country, that is why the dealers in these articles of food adulterate their food stuffs in any old way and the consumers suffer for it.

University of Michigan. S. N. Bal Ph. C., P. Sc.

REVEIWS
And Minor Notices

Junior Arithmetic. By R. H. Chope, B. A. of Kingswood School, Bath. (London: University Tutorial Press Ltd.) 2s. 6d.

This Book is an adaptation of "The Tutorial Arthmetic" suitable for Junior classes. A new feature is that the arguments are frequently been aided by the drawing of figures e. g. multiplication and Division of fractions. We fully appreciate the book.

Max Muller's history of ancient sanskrit literature. Cheap reprint of this valuable work (long out of print) published by the Panini Office Allahabad—Rs. 6.

The work first published in 1859, is even up to the present time acknowledged as a standard work on Vedic literature. It was out of print for many years. The Panini Office deserve the gratitude of the students of sanskrit and sanskritists in general for this useful work.

SCIENCE NOTES

Sir James Dewar's Christmas Lectures.

The remarkable physical changes which accompany the cooling to a low temperature of almost all bodies was illustrated by a number of interesting experiments at the Royal Institution, when Sir James Dewar gave the last of his six Christmas Lecture Epilogues; although primarily adapted to a juvenile auditory, these lectures have been attended as usual by many well-known scientific men, who must have accorded them the same appreciation manifested by the younger members of the audience.

Low temperatures, Sir James Dewar explained, were now of commercial significance, and not confined to laboratory experiments; very large quantities of liquid air were produced annually at the present time for industrial work dependent on intense cold.

Lowest temperature on Earth

The lowest temperature ever experienced on the earth he said was that of boiling carbon dioxide.—80 deg. on the absolute scale which had been met with on a high plateau in Siberia; this was considerably lower than any temperature met with in the upper atmosphere. A solid block of frozen carbonic acid gas, immersed in water, was projected on the screen, when the intense ebullition was seen to advantage showing the interesting phenomenon of a boiling solid.

Change due to low temperature

The wonderful changes in physical characteristics of bodies subjected to very low temperature was well demonstrated by showing the power of an egg and a candle to become luminous after having been subjected to a powerful light. The egg was placed in liquid air, and the rays from an arc lamp concentrated upon it; it was then removed, and when held in the darkened lecture theatre it was seen to glow brightly. A tallow candle treated the same way also glowed in the dark, the luminosity gradually dying away as the candle regained warmth.

Upper atmosphere

The part played in the upper atmosphere by electrical changes was beautifully shown by moistening a high cooled rod which had been electrified by rubbing it with a dry handkerchief. Snow crystals rapidly formed on the surface of the rod, and were seen in course of growth by projecting the image of the rod upon the screen. The delicate

crystals, themselves charged with electricity would occasionally fly off briskly through their breaking away from the rod and then falling victims to electrical repulsion.

Sir James Dewar concluded by showing some properties of liquid hydrogen contained in an outer vessel of liquid air; pieces of cork dropped into the liquid immediately sank owing to the lightness of the fluid hydrogen while pith itself only floated if it absorbed sufficient fluid in its pores to make it buoyant.

Liquid Hydrogen

Artificial Meat.

A Belgian chemist, M. Effront asserts that he has synthetically produced viands, closely resembling butcher's meat in taste, but of greater nutritive value. M. Effront's method is to take such industrial residue as malt grains, and to extract therefrom the proteids. The malt grains, after being washed, pressed, and treated with sulphuric acid and then lime, give after filtration and evaporation a pasty substance, tasting like meat, but with three times as much nourishment. Several doctors in Brussels have experimented on man with this artificial meat with satisfactory results. M. Effront has also prepared another food from the hay of lucerne and clover and other fodder, the nutritive quality of which has passed the tests.

Latest Talking Machine.

America's New Year's gift to the world will be moving pictures which talk, not in mechanical, automatic fashion, but with a power that moves to tears and laughter. Something of the kind has been attempted before, but the demonstration seen and heard, of Edison's latest kinetephone marks the difference beteween imperfect attempt and definite achievement.

The kinetephone is a talking machine that works in harmony with moving pictures. It is to be used to add realism to the scene thrown upon the canvas. Within a short time, it is predicted, London productions will thereby be given in the mining camps of America's West-Great musical comedies, and it is expected, will be 'canned' by the machine, and while the music is being rendered, the action of the comedy will go on before the audience.

Mr. Edison himself thinks it only a question of time ere the best actors will be performing their best roles before the camera and the kinetephone and their records will be available for the instruction and delight of generations yet unborn. After four years of the hardest work Mr. Edison has perfected the machine, so that it is what he refers to as 'fool-proof'.

To develop his invention, Mr. Edison has been utilising a New York theatre with a stage almost as large as Drury Lane, where actors are playing and records are being made. He predicted last June that everything would be ready in a few months but while his 'plan was a success artistically, it was not perfect. Since then, the work has made such progress that any play or opera may be produced. For tests in New York, the operas, 'Faust' and 'Il Trovatoros'' are to be given. Reels are ready, and records of singers have been made. One machine, in the balcony throws the picture of the actors and scenery upon the screen, while the kinetephone, worked by the second operator, will be just at the back of the screen.

Life after Death.

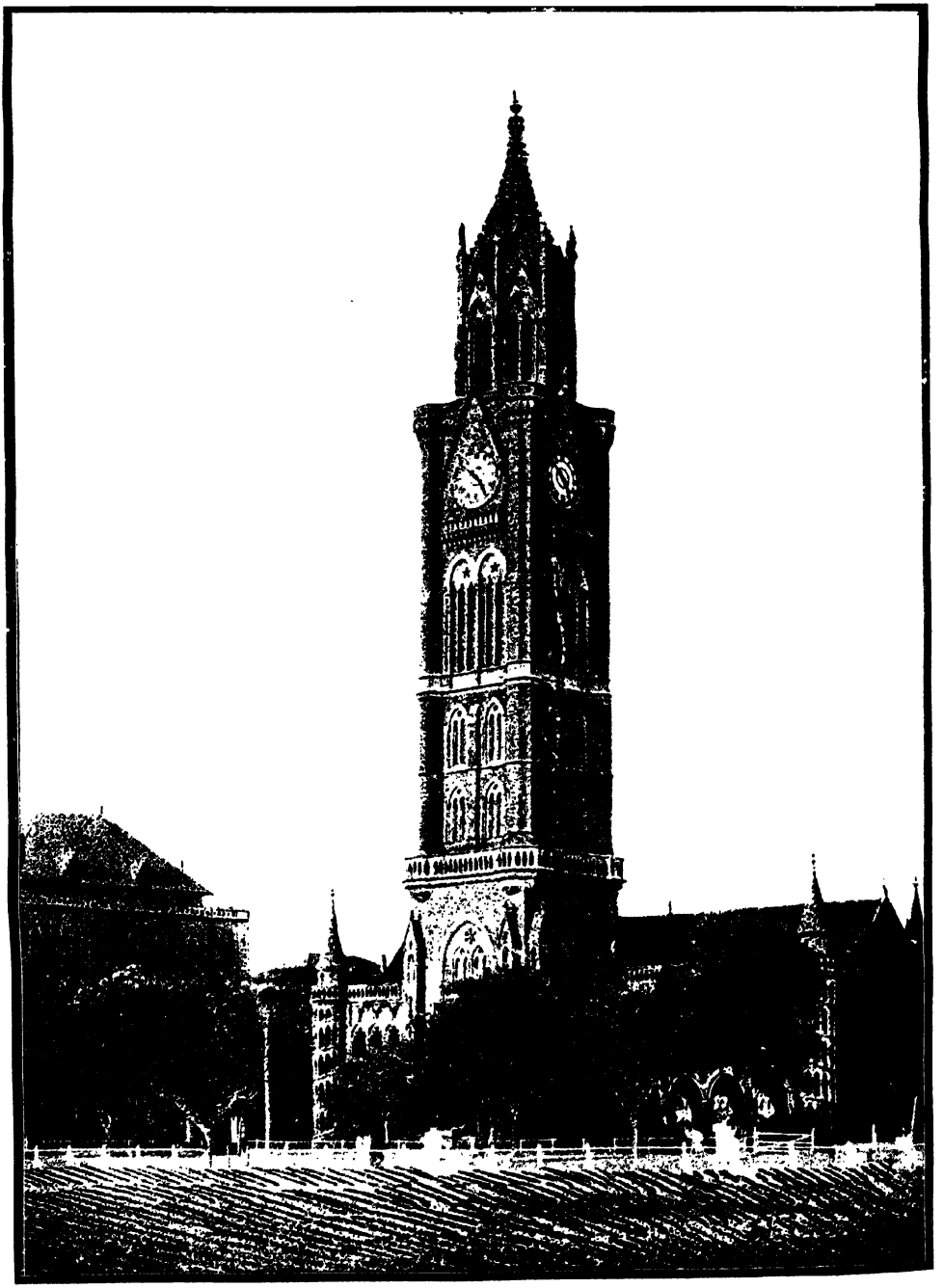
Dr. Alexis Carrel, of the Rockoefeller Institute, New York, who won the Noble Prize this year for his researches into the preservation of living organs apart from the body, has carried his experiments a step further by maintaining all the normal functions of the heart, stomach, and other organs, removed intact from a cat's body, for thirteen hours after death.

A paper written by Dr. Carrel's direction, describing his most recent experiments was read says the *Matin*, by Professor Pozzi to the French Academy of Medicine. Dr. Carrel removed in a single mass the kidneys, heart, œsophagus (part of the alimentary canal), stomach, and intestine of an animal and preserved them at the normal temperature of the body.

'Into the severd trachea (windpipe)', said Professor Pozzi, 'an indiarubber tube was inserted to enable aritificial respiration to be maintained. Then the organs of thorax and abdomen, with their blood vessels, were cut out in a single mass and placed in a vessel containing a certain solution at a temperature of 100 degrees Fahrenheit. The heart continued to beat slowly and regularly After some minutes the blood pressure rose and became sometimes almost normal.

'The organs were then placed in a box filled with the solution, protected by a glass plate. The windpipe tube was fixed to an opening in the side of the box. Another tube was fixed to the us. It then became possible to inject water or nourishment into the stomach.

In one instance where the stomach was full of meat at the moment of death the process of normal digestion was carried on for some hours afterwards. The greater number of the organs on which Dr. Carrel exprimented continued in active life ten, eleven and even thirteen hours after the death of the animal of which they had formed part.'



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(By the courtesy of the Hon'ble. Mr. H. Sharp, C.I.E., Secretary to the Govt. of India, Education Dept.)

Te Collegian No. 2 February 1913,

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AND PROGRESS OF INDIA
CALCUTTA, SATURDAY, MARCH 1, 1913

Educational Policy of the Government of India

THE GOVERNMENT OF INDIA have issued a long resolution on their educational policy during the last week of February. We have not yet been able to go through the resolution fully. We mean to publish this important resolution in full in the next two issues of the journal. Of the many important points we cannot fail to notice that which dwells upon the Government's intention to assist local Governments by large grants not to centralise provincial system or to introduce superficial uniformity, still less, deprive Local Governments of interests and initiative in education. The resolution proceeds to deal with the need of true perspective in educational policy and emphasises the formation of character as the main objective. Dealing with direct moral and religious education the Government of India lament the tendency of the existing system of education to develop the intellectual at the expense of moral and religious faculties. The Government of India desire to see hostel system develop until there is adequate residential accommodation attached to every college and secondary school in India.

Educational Progress during Lord Sydenham's administration

IT is interesting to note the progress of Education in the Bombay Presidency during Lord Sydenham's administration. There was a thorough revision of the educational administration of the Presidency. In 1907-08 the total expenditure on education rose by seven lakhs to one hundred and thirteen lakhs rupees; in 1909-10 the salaries of teachers in primary schools were increased; and important proposals for the improvement of the University curricula were under discussion. While special grants were made for primary education, resulting in 1909-10 in an increase of 7½ per cent. in the number of primary educational institutions; the system of secondary education was subjected

to anxious scrutiny. One of the chief features of the unrest which embraced India during this period was the participation of many pupils and ex-pupils of High Schools in political agitation of a most debased kind, and the attention of the Government was directed towards providing secondary education with a curriculum which would afford the youth of the Presidency a clearer grasp of facts and circumstances concerning India's position in the Empire and a better chance of serving her economic needs. Two results of this general policy were the preparation in 1910-11 of a series of moral and religious hand-books for use in schools and the inauguration of Science Institutes in Bombay and Ahmedabad.

* * *

Educational side of the Inquiry of the Public Service Commission

IT will be interesting to our readers to read the evidence of Dr. Thibaut before the Public Service Commission.

The Commission examined Dr. Thibaut, Registrar of the Calcutta University, representing the Educational Service of Bengal, Behar, Burma and Assam. Replying to Sir Theodore Morison, Dr. Thibaut, said that the teaching in M. A. Examination was done by Colleges and by private tutors. No College was allowed to teach in any one subject for the M. A. Examination, unless it had a staff capable of teaching that subject. There was nothing to prevent a man attending the M. A. lectures at the Calcutta University which would be useful to him in connection with the Indian Civil Service Examination. The standard of M. A. Examination was very high as each subject was specialised.

Q.—How do you think the standard of the M. A. Examination of Calcutta University would compare with the M. A. Standard of a European University?

A.—I think it would be about equal. So far as book knowledge goes it would be about the same.

Q.—Of course the Indian Civil Service Examination is a test more of book knowledge than of brain power?

A.—Yes,

Mr. Gokhale who attended the afternoon sitting asked some question to Dr. Thibaut. Witness in reply said that a student who had taken his M. A. Degree in Mathematics would take one year to study other subjects before he could appear at the Civil Service Examination. But much depended on the individual capacity of the student. He would be 23 years and possibly more before he could appear at the Civil Service Examination.

In answer to Sir Murray Hammick witness said that secrecy of examination of papers could be maintained with proper care. He had never previously heard of a case in which an attempt had been made to bribe an examiner. He had heard of cases in which clerks and servants had been approached either for examination papers or to substitute covers of answer book. If all examinations were held in a central place all these dangers would be avoided. The Curriculum of the University was determined by the Senate and then it has finally to be sanctioned by the Government.

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A Hindi Literary Missionary

WE are glad to learn that at the last Calcutta Hindi Literary Conference Mr. Satyadev who has come back from America after graduation in one of the western State Universities has been appointed a preacher of Hindi language and literature in the Punjab. Mr. Satyadeva is a powerful writer and speaker and is the author of several Hindi treatises on American education and allied Subjects. We have every sympathy with the organisers for the promotion of vernaculars and congratulate the Hindi speaking people of India on their having secured the services of an able and devoted worker; we wish this young missionary all success.

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Title of 'Bharati' conferred on a French Lady.

At a meeting held at the Sanskrit College the pundits under the presidency of Principal Mahamahopadhya Satis Chandra Vidyabhusan, conferred the title of "Bharati" on Miss Suzzane Karpeles, a young and distinguished French lady of considerable Sanskrit learning.

Miss Karpeles had training in France under such illustrious professors as Sylvain Levi, Foucer and Finot, to whom she makes admiring reference in her speech. She is a young lady of strikingly wide reading. Her passion for Sanskrit literature and philosophy is altogether unique. For the purpose of carrying her studies further into the fields of oriental learning she has now placed herself under the tuition of a distinguished Sanskrit scholar selected for her by the Principal of the Sanskrit College.

* * *

The Moshin Centenary

MD. MOHSIN Centenary was celebrated at Hoogly Imambarah on Sunday the 2nd March with great solemnity. Hundreds of beggars, both Hindus and Mahomedans, were fed, and blankets were distributed. There took place also Fatihu Maghs of the great founders in the Imamath, which was largely attended by the Mahomedans of Calcutta Hoogly and Murshidabad and other places. The Moslem entertainment and the grand illuminates of the Imambarah and its gardens were much admired by the public, both Hindus and Mahomedans. Appreciation was expressed of the Government of Bengal for the donation of Rs. 1,000 which it gave for the above celebration. Gratitude was also expressed to the Imambarah authorities for their support and co-operation to make this Mohsin Centenary a success.

THE UNIVERSITIES

Calcutta University

Senate Meeting, February 22, 1913.

A MEETING of the Senate was held at the Senate House, on the 22nd February 1913, Justice Sir Ashutosh Mookerjee presiding.

The President in opening the proceedings referred to the first item, which had reference to an alteration in the University regulations affecting students' messes attached to colleges and private lodgings. He explained the nature of the alterations proposed and gave some reasons why they were considered desirable.

Students' Messes

Mr. Das Gupta then moved the acceptance by the Senate of the recommendation of the Syndicate. (*a*) That the following be substituted for the second paragraph of Section 19, Chapter XXIV, of the University Regulations:—"The College to which a mess is attached shall appoint a visiting Committee, in consultation with the public body which provides funds for the mess, and subject to the approval of the Students' Residence Committee." (*b*) That the following new paragraph be added after Section 25, Chapter XXIV, of the Regulations:—"All private lodgings shall be approved by the Students' Residence Committee before they can be accepted as private lodgings within the meaning of the Regulations; and such private lodgings shall be open to inspection as in the case of any hostel or mess."

He thought they would all agree that the College to which a mess was attached should not be left out of consideration, as it was the body most interested in the matter. Similarly in the case of lodging houses, cases had come up which impressed upon the syndicate the importance of inspection. The necessity and importance of regular inspection of students' lodgings by proper officials was made clear and hence the substitution which was proposed.

The motion having been duly seconded the two parts of it were put to the vote separately and both were carried unanimously.

On the motion of Mr. Kuchler, the Senate accepted the recommendation of the Syndicate and appointed Mr. J. Coggin-Brown, B.SC, F.G.S., and Babu Hem Chandra Das Gupta, M.A., F.G.S., University Lecturers in Geology for a term of two years.

University Lecturers

Babu Satish Chandra Vidyabhusan moved, and it was duly seconded and unanimously carried, that Dr. Prabhu Dutt Sastri be appointed University Lecturer in Sanskrit and Philosophy for a term of two years.

Professor Stephen moved the adoption of the recommendation of the Syndicate:—That the Government of India be moved to sanction the proposal that, in addition to the affiliation already granted to the Serampur College, it be further affiliated, with effect from the commencement of the ensuing session, to the B. A. standard in the following subject: English (Pass and Honours); Bengali; Philosophy (Pass and Honours); Sanskrit (Pass and Honours; History (Pass); Political Economy and Political Philosophy (Pass).

Affiliations

Oxford College of Bengal

He said that in considering the circumstances of the application from the Serampore College, it did not appear to be an unreasonable one. The class-rooms, building, etc., were adequate and the staff was composed of gentlemen of high attainments. The few additions which might be desirable could be carried out at short notice. It was a small college with from 100 to 200 students, a large proportion of whom resided in the college compound and the students would be known personally to the professors who would be instructors. It might be called a tutorial college. There was room for more such colleges in Bengal. There was no reason why the Serampore College should not be the Oxford College of Bengal. The motion was carried unanimously.

It was then resolved that in addition to the affiliation already granted to the Chittagong College, it be further affiliated in Physics to the B. A. and B. Sc. Pass standards with effect from the commencement of the next session, provided that number of students in each of the 3rd and 4th year classes do not exceed ten.

Chittagong College

The remaining items consisted of the adoption of the Syndicate's recommendation allowing a large number of young men to appear for various examinations as non-collegiate students, including about a dozen who had served as teachers for three years and more in approved schools. The point was raised by one of the members of the Senate that there seemed to be a great number of applications from students who had not attended the prescribed number of lectures, yet these applications had been favourably received. He understood that the Vice-Chancellor was going to bring forward a rule to put a stop to this. Sir Ashutosh Mookerjee said this would be done very soon. As regards these particular cases the percentage by which these students had fallen short was very small and Syndicate had been very strict.

Non-Collegiate Students

The next motion had reference to the granting of permission to a number of candidates to appear at various examinations as non-collegiate students

as they could not join any college for want of accommodation, but had passed the Test Examination of a College. There was some discussion on this question, at the end of which the Vice-Chancellor said he hoped to be able to avoid this difficulty in future. Steps would be taken so that students would know where to go to get the lectures upon the subjects they had taken up.

Madras University

Fellows

YAKUB Hassan Sahib Bahadur, Dr. S. Swaminathan and Mr. G. V. Appala Rao Pantulu have been nominated ordinary Fellows of Madras University.

Syndicate members

UNDER Regulation 19, the Hon'ble Mr. Justice Sundara Aiyar, B A., B.L., a member of the Syndicate, vacates his seat on the 14th March 1913. In accordance with Regulation 92, notice is given that an election of member of the Syndicate will be held forthwith. The Syndicate has nominated Mr. Justice Sundara Aiyar for re-election.

Examinations in Medicine

The Examinations in medicine 1913 will begin on the following dates :—First L.M. & S. First M.B. & C.M. and Second M.B. & C. M. degree Exams—Monday 31st March 1913. Second L.M. & S. Final L.M. & S. Third M B,& C.M. & Final M.B. & C.M. Degree Exams—Tuesday 8th April 1913.

Degree of Licentiate in Teaching 1913

THE following is the list of candidates who qualified for the Degree of Licentiate in Teaching under the old regulations in the year 1913:—SECOND CLASS: 1. Anantasubba Ram, Periypatam; 2 Krishnamachari Sirangam : 3 Sundaram Aiyar P. K.—all from Teachers, College Saidapet.

Affiliation

THE Governor-in-Council has sanctioned the further affiliation to the University of Madras of the Pachaiyappa's College, Madras. in Group (ii-A)—physical science—of the B.A. Degree (pass) course.

Bombay University

Annual Convocation for Conferring Degrees, 18th February 1913

THE CHANCELLOR'S ADDRESS

Lord Sydenham presided at the Bombay University Convocation held on Tuesday the 18th February. The following is the text of His Excellency's Address as Chancellor ;—

Mr. Vice Chancellor and Members of the University of Bombay—It has been well said that the British people "only hold India on the tenure of continuous amelioration." To secure continuous advance in every direction leading to the moral and material well-being of all classes is the manifest duty of all Governments, however constituted and the sole justification of their existence ; but upon us the responsibility lies with special weight. We found an India distracted and wasted by internal wars, split into fragments and incapable of self-organization. To enforce stable peace was the first necessary condition of the establishment of a system under which law and order could be maintained, justice administered and national consolidation rendered possible. The way to British ascendancy was long, arduous and critical. For Indians who desire—as many do—to pass judgments upon existing institutions careful study of their history from the period when the European powers became involved in Eastern enterprize is essential. Such a study would provide a needed corrective of the misconceptions which find too frequent expression and would exercise a sobering influence upon the trend of political thought.

Many Masters

Portugal, Spain, Holland, England and France have all contended for supremacy in the East, and the destinies of India turned upon vastly complex issues which were gradually determined by the interaction of great European forces. The short period of Portuguese prosperity in the East never recovered from the annexation of Portugal by Spain in 1580. Spain, at the end of the 16th Century, claimed the monopoly of all trade with the East Indies and regarded the Indian seas as her territorial waters ; but such a claim could not be sustained. Spanish enterprise was diverted to the Western hemisphere and the recognition of the revolted Dutch Republic by Queen Elizabeth involved Spain in a naval war with England which extended to Asian waters and was fraught, with momentous results to India. The Dutch captured from Spain the original Portuguese possessions, founded their East India Company in 1600, two years after the grant of a Charter to the London East Indian Company and endeavoured to establish a monopoly of the trade of the East as complete as that which had been claimed by Spain. It was this Alliance between England and the Dutch United Provinces that gave the first impulse to British trade with India. The Kingdom of Spain and Portugal disappeared as contestants for commercial supremacy, and the Dutch and English Companies entered upon a long course of rivalry which lasted during the greater part of the 17th century and included three wars. The second of these wars found Holland in alliance with France one year after the establishment of a France East India Company which was to play an important part in the affairs of India. The death of Aurangzeb in 1707 led to a climax in the period of disorder from which the East had long suffered acutely. Alike in Persia

and in India, the great dynasties which had ruled for a century and a half were tottering to their fall. The Moghul Empire, which had maintained its outposts at Kabul and Kandahar, was quickly shattered. Bengal fell into the power of an Afghan adventurer, a new dynasty was founded in Oudh, and anyone who could command a sufficient following might carve out for himself a short-lived kingdom. The Maratha bands, developing into devasting armies over-ran Central and Western India and contributed powerfully to the general break up of authority. When, in 1738, Nadir Shah, the successful soldier who had destroyed the Persian dynasty, swept from the North Western passes to the sack of Delhi and the wholesale slaughter of its inhabitants, the irrevocable ruin of the great Moghal Government was practically complete and ten years later Ahmed Shah from Afghanistan conquered the Punjab. The Indian people, in Sir Alfred Lyall's words, "were becoming a masterless multitude prepared to acquiesce in the assumption of authority by anyone who could show himself able to discharge the most elementary functional of Government in the preservation of life and property."

This stupendous catastrophe—the greatest that India has yet experienced because never before had authority been wielded on so great a scale as by the Moghal Empire in its prime—was due wholly to internal causes. That it directly and inevitably paved the way for political intervention by the European powers is beyond doubt but the question of supremacy remained to be decided by the operation of great forces in which India played no part. Following Portugual and Spain, Holland also disappeared from the lists. A Danish and an Austrian Netherlands East India Company had died natural deaths. France and England at length stood face to face and for a time the activity of the first was the greater. From 1744 to 1749 the two rival Companies were at war on the Indian Sea board with results which were distinctly encouraging to the plans of Dupleix, who had initiated the policy of intervening in the quarrels of Native Princes where French interests could be promoted. Thus inevitably arose the political rivalry which changed trade centres into bases for territorial expansions and since trade needs peace and order as the primary conditions of its prosperity, such expansion continued as Dupleix clearly foresaw that it must, after the French cause in India had been irretrievably lost. The confused warfare between the French and English Companies added to the prevailing distraction of India, but had no real effect on the final issue. Financial difficulties assailed the former, which from the first was closely associated with the French Government, while the latter was an association of traders not brought, under the control of Parliament till 1773.

Upon the potentialities of British Sea-power, the fate of India absolutely depended, and they were governed by conditions racial and political when shaped themselves in seas and land far away. The Seven Years war, which began in 1756 and ened in 1763, was a triumph for the British Navy which, after ravaging the French coast, won a brilliant victory in Quiberon Bay crippling the naval strength of France and enabling the British conquest of Canada to be achieved with results infinitely important to the future of the Empire. In the War of American Independence from 1775 to 1783, Great Britain without an ally was involved with France, Spain, Holland and her revolted Colonists, and was menaced by the armed neutrality of Russia, Sweden, Denmark and Prussia. The strain upon the national resource was intense but the Navy remained undefeated and rose in the Wars of the French Revolution and Empire from 1793 to 1815 to the summit of its power. The failure of the Navy during this series of international wars, in which it fought against the combinations of the great maritime Powers, would have quickly reacted upon India against which the last French naval effort was made in 1781. From the Peace of Versailles to this day, no Naval Power has attempted to contest the command of the Indian seas, and the trade of India, now inceased to vast dimensions, passes secure under the aegis of the British flag. I am sure that the growing commercial classes of India and the large number of Indians who depend upon the operation of sea-borne trade realize what this means to their vital interests.

British Sea Power

Once again did French designs upon India take practical form. In 1798, Napoleon dreaming of an Eastern Empire, led a great expedition to Egypt, where Nelson at the battle of the Nile destroyed the French fleet leaving the Military forces isolated. After an abortive attempt to conquer Syria, the French army, deserted by its Chief, was signally defeated in 1801 by a British and Turkish force under the walls of Alexandria before a contingent of 8,000 troops from Bombay could arrive upon the scene.

Secured by naval supremacy against the intervention of any European power, it would have been possible for the British to proceed systematically to the subjugation of india but this was not attempted or contemplated. By the occupation of Bengal which soon followed the rout of the Nawab's forces by Clive at Plassey in 1757, the trading centre of Calcutta was expanded into a territorial possession dominating the vast plains and the great waterway that stretch north westward for 1,200, miles towards the Indus and the Hindu Koos. Bengal had been ruled by foreigners during long centuries, and the capitals of the great conquering dynasties had been founded in the broad fertile regions watered by the rivers fed from the Himalayan snow. But never

before had the gate of these regions been held by a power which came by and drew its strength from across the sea. Henceforth, for 150 years, Calcutta was to be the centre of British Government in India and a new political era began leading to the territorial ascendancy which, after the collapse of French rivalry, become inevitable. The process of expansion went on intermittently during nearly a century before the peace of all India was at length secured, and circumstances over which the British exercised no influence helped to bring about the final result. In the year of Plassey, an Afghan Army descended upon Delhi but Ahmed Shah's Viceroy soon found that his dominion in the Punjab was challenged by the Marathas who took Delhi and Lahore and reached the summit of their power. In undertaking the conquest of Northern India they had overestimated their capacity and the retribution was swift and summary. In 1760, Ahmed Shah with a large army from Afghanistan, retook Lahore, and moved south eastward to the Jumna heavily defeating Holkar and Sindia. The Peshwa made a great effort to retrieve his fortunes in Northern India, and at Panipat in 1761, the Marathas were routed in one of the greatest battles ever fought on Indian soil The Maratha Power never wholly recovered from this blow and, though it remained formidable, symptoms of the same tendencies which had involved the ruin of the Mogul dominion soon began to show themselves, and contributed to the final overthrow at the beginning of the 19th century. Ahmed Shah unlike some previous invaders did not follow up his victory by consolidating his power, and the Panjab quickly lapsed into anarchy until the short-lived Sikh Kingdom became established. In 1797, his successor Ziman Shah reoccupied but could not hold Lahore, and the series of Mahomedan invasions which had lasted for 760 years came to end. All these events favoured the onward movement which was to lead the British from Bengal to mountain frontiers of Afganistan.

The hasty and incomplete sketch of a long and tangled chapter of history which I have attempted to draw may seem out of place on an occasion like this. My object is to give some idea of the forces which brought about the conditions under which we now live in India. In the long period of wars frequently recurring, during which British control was gradually built up it may well be that each and every step cannot be directly justified; but at least the dispassionate student of that period cannot fail to realize that conquest for conquest's sake and territorial aggrandizement were not our objects. We were groping at—at first perhaps blindly—after political stability, stable alliances with Native States able to organize and maintain ordinary Government would have suited our requirement but in the chaotic conditions which we found they were not available. Nor till we reached the great mountain ramparts that separate India from Asia were stable frontiers to be attained. That when the period of expansion ended, one-third of India remained under Native Rule, and that innumerable States, large and small, should have been carefully preserved out of the welter of long racial and dynastic wars, enjoying security never previously known, is the best proof that our motives were never inspired by greed of territory.

Unsought Dominion

Scarcely 150 years have elapsed since it became certain that dominion in India lay open to Great Britain and not to France from whom it might have been torn after Trafalgar or after Sedan. During little more than 50 years, since the cataclysm of the Mutiny, have we been able in the full security of peace to devote ourselves to the great work of "continuous amelioration" throughout the vast territories which have passed directly under the Crown. During the years of storm and stress through which Great Britain passed between 1756 and 1815, the ever growing responsibilities of the British people toward India may not have been realized. Full consciousness of our sacred obligations would not be reached until peace reigned over the length and breadth of India. It found expression in the Queen's Proclamation of 1858, and it has broadened and deepened ever since. The Britain of Queen Anne was not that of the Great Queen-Empress, which again has changed materially in becoming the Britain of His Majesty King George V and must continue to change. It is as unjust to attach importance to errors and defects which occurred in days that are gone as it would be to dilate upon atrocities perpetrated under contemporary Indian Rule. The one have long been as impossible as the other.

That dominion in India fell to a maritime Power was the certain result of causes operating through many centuries in India itself, that such dominion fell to Briatin was not without certain advantages. The author of the future of England analyses the reasons of position won by the British people in the world, and after dismissing various hypotheses he reaches the conclusion that they—first among the nations—wrested from the State the right of religious freedom and with it civil liberty. To this conquest he traces the rise of our gigantic industrial system. England had shaken man's authority and founded freedom. Free England had shaken nature's authority and founded industrialism to which the best workmen of Europe, fleeing from religious persecution powerfully contributed. To the nation which led the world in securing human liberty and in turning the limitless resources of nature to the service of mankind fell dominion in India. In the century during which that dominion was established, there was no other

nation nearly so well fitted for the first task of building up gradually but surely, and orderly and a just Government. Who will say that any other nation would be better able than we are to carry through the second task—that of uplifting and welding the heterogenous peoples of India into harmonious nationhood and of leading them to develop the natural resources of their great country.

Building a Nation

This second task, in which we are now engaged and by success in which perhaps the historian of a distant future will mainly base his judgment upon our achievement, is proceeding steadily by various processes. Law, which never before our day was uniformly enforced, is a great if sometimes a harsh, schoolmaster. And if a great system of law, devised with the best intentions, had led to a mania for litigation intensified by the gambling instincts of the East, it is nevertheless a unifying force; Railways, telegraphs, the postal service, irrigation on a vast scale, even good roads are all playing their part in blending interests and breaking down social barriers. A nation in the modern sense could not be built up in India without railways which we have spread broadcast throughout the land. The English language, which is rapidly becoming the "lingua franca" of India, is another nationalizing factor of great importance, and without it the "National Congress would be practically impossible" The self-sacrificing labours of Missionary association of many kinds are providing examples of philanthropic service which can be helpful to Eastern peoples with national aspirations. The liberal system of Local SelfGovernment which now exists supplies full opportunities for the harmonious working of all communities in the discharge of important civic duties. The enlarged Provincial Council provides higher training in the orderly conduct of affairs and brings together twenty-nine Indian Members, widely representative of Indian interests, to decide upon all legislation and to discuss matters affecting the public welfare.

You perhaps think that all these and other means of nation-building are of minor significance compared wiht what is conventionally termed, "Education," and undoubtedly the character and the acquirements of the young men and boys who annually leave the colleges and schools of any country are factors of extreme importance in relation to national progress. We have brought Western education into India, and the change was inevitably of the nature of an intellectual evolution not unlike the great Renaissance movement, which profoundly stirred European thought in the fifteenth century and helped to inspire the spirit of enterprize which was to bring the West into close contact with the East.

In England, the evolution of higher education was slow, and till recent years unorganized and not controlled by Government. Oxford and Cambridge were flourishing in the 13th century; but religious tests were only abolished in my lifetime, and these great Universities were not wholly freed from Sectarian rule till 1871. Throughout the Middle Ages, the Church and the State strove for supremacy, and the latter when at length victorious claimed to assert unlimited authority over the religious thought of its subjects. It was, as I have said, in breaking down this authority that the English people led Europe into the paths of civil liberty. In later years, Education, long conducted entirely by the religious bodies, became one of the most important functions of the State. The first national grant for educational purposes was made by Parliament in 1832, and in 1843 the State gave financial aid to Training Colleges. The gross inefficiency of the teachers revealed by a Commission and the urgent needs for organization led to the Education Act of 1870 which nationalized Primary Education. This and subsequent Acts up to that of 1912 established the free and compulsory system which now prevails. English Secondary Schools existed before the accession of Henry VIII in 1509 and partly as a result of the Renaissance, 800 Grammar Schools were established in the following century, while most Cathedrals had an attached school. These schools developed on lines of their own some of them attaining distinction while many were hopelessly inefficient. Great changes have been carried out in recent years and though Secondary Education of the middle classes remains self-supporting grants-in-aid are now made to enable schools to provide free Secondary Education for the children of the working classes. Under the Act of 1902, as stated by Lord Haldane at Bristol the other day, the clever boy or girl can generally obtain a scholarship or a free place in a Secondary School, though further progress is still difficult. The completion of the chain connecting the Primary Schools with the Universities will soon be accomplished. In this Presidency, Government now provide for ten per cent. of free scholars in our High Schools and the aided schools may extend the free list to 15 per cent. The Secondary Schools of the Uuited King dom have about 161,000 pupils compared with about 400,000 in Germany taught by 20,000 highly trained teachers. Since 1907, the teachers in the Elementary schools of Great Britain have been obliged to spend a whole-time period in a Secondary School before entering a Training College.

Organised Education

When Western learning began in India, education in England, though considerable in quantity, was largely inefficient and wholly unorganized. Only in the latter half of last century was it realized that we were falling behind other countries and especi-

ally Germany where a great system devised and controlled by Government was being rapidly built up. The British habit of trusting to private agency and private effort, which has some great advantages, proved to be quite unsuited to modern educational needs, and the nation which led Europe in industrial enterprize was threatened with defeat on the field which it had dominated. Not only in scientific training, but in general education, we found that we were in danger of being out-distanced by rivals and that our national progress was impeded. Our complacence received a rude shock and we attempted in earnest to set our educational house in order. The paramount importance of Government responsibility in regard to education in all its branches is now recognized, careful study is devoted to education as a subject "per se," and numerous and drastic reforms are in full progress. The great question for this country to-day is whether Indians, like the Japanese, will welcome and assist in carrying out corresponding reforms or whether they will rest satisfied with obsolete methods which all advanced peoples have left far behind. Upon the answer to this question the speed of the progress of India towards nationhood largely depends.

It is a curious fact that the date of the first contribution from national funds to education in England only anticipated by three years what was a turning point of education in India. Lord William Bentinck desired that the education of India should be based upon "English literature and science." The first direct impulse, however, came for the Law Member of his Council, who in contemptuous rhetoric gave a false direction to education from which India has not yet recovered. Lord Macaulay's initial work on the Penal Code, which he did not remain to complete, was admirable. His idea that education should aim at producing Government officials showed a narrowness of vision which India has reason to deplore. As M. Chailley points out, "It necessarily followed that pupils were to be sought, not among the mass of the people, but in a special class." Until recent years Primary Education has been too much neglected, while Secondary and Higher Education absorbed a disproportionate share of public funds. The famous despatch of Sir Charles Wood in 1854 aimed at redressing the balance, and with a breadth of view remarkable at his period enunciated a policy of giving instruction to the masses of the people, discussed methods, and promised financial support. For various reasons, the results were most disappointing; but new administrative machinery was created and Higher and Secondary Education gained to some extent. In 1857, the Universities of Calcutta, Madras and Bombay were formally inaugurated. The Act of that year, in the preamble, laid down that these new Institutions were primarily established "for the purpose of ascertaining by examination the persons who have acquired proficiency in different Branches of Literature, Science, and Art, and of rewarding them by Academical Degrees." This miserable conception of the objects of a University was apparently due to the selection of the London University as a model for India. The London University has since undergone radical reforms; but the Indian Universities, misdirected from their start remain unregenerate.

University Functions.

The important Commission of 1902 was compelled to state that in a rightly governed University, examination is subordinate to teaching, in India, teaching has been made subsidiary to examination. This, the Commissioners most wisely regarded as the "greatest evil from which the system of University education in India suffer." They further stated that "it is generally agreed that the legal powers of the Universities have been so narrowly drawn as to suggest that they are restricted to the functions of holding examinations and conferring degrees, but they significantly noted the existence of "a very general desire that all the Universities should be recognized as teaching bodies" and they made proposals for enabling them to provide "advanced courses of study."

The Report of this Commission and the Minutes of evidence should be carefully studied by the everyone who desire to form any opinion upon the state of higher education in India. By 1902, Government and the Indians best qualified to judge had become perfectly aware of the grave defects in the system of higher education—defects which the Act of 1857 must have brought about in any country but which were powerfully intensified by the characteristics, social and intellectual, of the Indian people. Examinations had been allowed to run riot with results demoralizing alike to the Universities and to education generally. To pass the Matriculation and to obtain a degree became an object of ardent desire, attracting large numbers of boys who inevitably failed in both; or, if successful too often found later that their equipment, was of no practical value. Meanwhile the Universities continued mechanically to grind out passes and failures; kindness of intention led to real cruelty; standards were lowered and with increasing numbers came deterioration of teaching power. In the Bombay University, the proportion of teachers of all ranks to students is about 1 to 31. At Oxford it is 1 to 7.2 and at Manchester 1 to 6.4. Such comparisons are necessarily inexact; but they help to emphasize the indisputable fact that classes in some Schools and Colleges are far too large for education worthy of the name. The fierce struggle for objects too often tragically illusory and weakness in teaching power led to dependence upon memory the faculty which many Indians

possess in marked degree, with disastrous results to education. "The text book," writes M. Chailley, "reigns over the Indian Colleges in all its hideousness and it is not only the students who are possessed of these manuals." I need hardly say that a good text book may be advantageous or even indispensable for certain subjects, though in the higher branches of study it should have no place. It is the misuse of the text book by teachers and students that is in fault, and examinations which can be successfully passed by pupils who have committed passages of their manuals to memory react upon the teachers and are "causæ causantes" of the failure of education to do justice to India. The kindness, which may be cruel to individuals and must be injurious to national progress, is responsible for the form taken by too many of the University examinations. "A good examination paper," stated the Commissioners of 1902, "is a work of art," and they went on to make some practical suggestions on the subject which have been ignored.

Higher education in India can make a fair display in tabul ated statistics. The number of students in the Universities is very nearly identical with that in the United Kingdom and more than three times as great as that in Japan. Of all pupils under instruction, about one in 1,400 is receiving University training in the United Kingdom. The corresponding figure for Bombay is one in about 168. In the United Kingdom about one pupil in 34 is in a Secondary School; in France one in 33; in Bombay one in 11·2. In proportion to population for reasons which are plain the percentages are still very low for India, though 25·3 per cent. of boys of school age are now under instruction and this figure is mounting every year. Some relation between pupils in the different stages of education roughly approximating to that existing in other countries might have been expected; but causes, which I have endeavoured to explain, have produced a startling disproportion of University and Secondary students in India. We have in fact built up an inverted pyramid for which broad and stable foundations must now be provided. If the quality of the output of the Universities of India approached that of the Imperial Universities of Japan which have less than onethird of our number of students the progress of India would be greatly accelerated. Lecturing some years ago, Dr. Bhandarkar significantly asked, "Why should we not move on, side by side with Europeans, in the great fields of thought? Why should discoveries be made in France, Germany and England and not in India?" Anyone who will make a conscientious study of the state and methods of the Universities in India will find no difficulty in supplying the answer.

Higher education has fallen within the confines of a vicious circle. The Universities were created to examine and confer degrees. Indian students eagerly sought to pass the Matriculation and to win degree. Mistaken kindness demanded a large pass list, admitting boys quite unprepared for University training. Moreover to render these passes possible examinations of a special kind were necessary. The admission of unprepared boys wasted and enfeebled the teaching power of the colleges, and both Colleges, High Schools were forced by the character of the examinations into methods of teaching having no relations to education and harmful to the best students. One Institution, recently criticised, retorted pertinently that, "as long as the present system of examining is adhered to by the University, the system of dictation is almost forced upon the Colleges." These evils inevitably react upon the University itself tending to produce lowering of standards to meet popular demands and thus completing the chain of error which presses heavily upon the student and impedes the progress of India. I do not mean for a moment to imply that there is not good teaching in some Colleges and Schools; but such teaching does not obtain fair play and cannot stand out as it deserves. The mental strain upon the student, especially before the numerous examination periods, is often excessive and usually quite disproportionate to the amount of sound knowledge acquired. The economic strain may ruin a family without any compensation, when as too often happens they have stinted themselves and borrowed to provide a son with a standard of education for which he is not fitted. The Commission of 1902 laid down that the scale of fees should not be so low as to "tempt a poor student of but ordinary ability to follow a University course which it is not to his real interest to undertake." The principle here enunciated is perfecty sound, though, the adjustment of fees which it demands is not easily made. At least it can justly be said that in India, low fees may cause real cruelty, and that the practice of other countries, where the comparatively well-to-do have to pay full value for secondary and higher education which brilliant boys of the poorer classes can obtain by the aid of scholarship, has advantages.

A Vicious Circle.

The Government of India Resolution of March 1904 which followed the consideration of the Report of the Commission of 1902 is a remarkable State paper dealing with the evolution of education in all its branches, according full credit to what had been accomplished, pointing out the need of "substantial reform," clearly indicating the direction which progress should take, and laying special stress on "the abuse of examinations." Anticipating the demand for a large increase of Primary education, which has since become popular, the Governor-

General in-Council noted that there were "more than eighteen millions of boys who ought now to be at school, but, of them, only a litttle more than one sixth are actually receiving Primary education." In 1901-02 the gross annual expenditure on all teaching institution exceeded Rs. 400 lakhs; but Primary Schools received from Provincial and Local Funds only a little over Rs. 63 lakhs. The corresponding expenditure in 1911-12 on Primary education for Bombay Presidency alone was Rs. 35 ½ lakhs.

The Act of 1904

The startling revelations of the Commission of 1902 led to the Universities Act of 1904 which gave statutory force to a few of its most urgent recommendations. The result of this mild Act was a loud and widespread clamour which has not yet died away and which caused sorrow and discouragement to every true lover of India. The object of the Act—so its opponents alleged—was to "Officialize the Universities." This parrot cry was taken up by writers and speakers who had never read the Report of the Commission or the remarkable Resolution which followed, were unaware that in Germany and in Japan the Universities are controlled entirely by Government and for that reason are peculiary efficient, and ignored the pregnant statement of Dr. Bhandarkar, one of India's greatest Scholars, that "Educational opinion should predominate in the Government of the University". Prejudice having been thus aroused, it was inevitable that, as in all such cases consideration of the real issues should drop out of sight. That Government sincerely desired only to remedy patent evils, tending to become chronic, which were visibly checking progress in India, and could have no other motive was quite forgotten. The misconceptions thus engendered bear dead sea fruit to this day and have helped to neutralize the good that might have been accomplished. Mr. Chailley, whom I quote again because an acute French critic of our administration cannot be credited with official or racial bias after characterizing the Act of 1904 as "the real charter of present-day education in India," asks "Will it prove really efficacious". "My own opinion." he adds, "is that the reforms will languish," and after a careful study of education in India during more than five years, I have come to the conclusion that, for reasons which we plainly see, the results have not corresponded with the efforts and the intentions of Government.

Members of the Senate, I trust that you will forgive me if I have seemed to dwell too much upon the essential weak points in our system of education. When I first had the honour of addressing you five years ago, I confessed to a "sense of disappointment" at the results of higher education. That sense has been deepened by fuller knowledge and it has been my earnest endeavour to get to the root of the causes which are operating to make the output of our Universities inferior to that of other countries and inadequate to meet the ever growing needs of India. Upon you, individually and as a body, heavy responsibility rests. You control higher education in this Presidency, and when education is sound and thorough at the head the effect permeates the whole system. As Chancellor, I thank you for the progress which you have accomplished. We now have a rational curriculum which will require revision from time to time to conform to the general advantage of education among all progressive nations of the world, but is a marked improvement upon the patch work which formerly existed. You have abolished compulsory English History which no other Indian University adopted which was strongly condemned by the Universities Commission, and the teaching of which for the B.A. degree was characterized by your distinguished late Vice-Chancellor Dr. Selby, as "a farce." You have just abolished the Previous Examination—another speciality of Bombay—a step which I urged about 4½ years ago. If you have not agreed to allow Colleges to admit their own under-graduates and thus to assign to the Matriculation Examination its proper place, it may be hoped that this reform, which would lend vigour and individuality to the College and relieve the University of a burden which it is not well fitted to bear while retaining all it proper functions of control, will be reached ultimately. Meanwhile you have distinctly improved the Matriculation course, and you have accepted the Senior Cambridge and Oxford Examinations and the European High School Examinations, on certain conditions, as equivalent to the Matriculation. All this shows progress but I need hardly tell you that the most perfect curriculum may be rendered absolutely worthless by examinations. Already a fear has been expressed and is justified that the B.A. of the future will emerge no longer with a general smattering of four subjects but with an equally superficial knowledge of two only. This disastrous result you and you alone can avert, if you realise what the quality of your output means to India. I congratulate you on the new opportunities which, if they are turned to good account, will advance the best interest of the presidency. Five years ago I pointed to the neglect of Science and its necessary consequences. Thanks to five generous citizens, representing all the great communities, the Director of public instruction can now write that "the reproach that teaching in Science on up-to-date lines is not available within the Presidency will soon be done away. The fine Institutions at Bombay and Ahmedabad, if properly worked, must stimulate industrial enterprise on true Swadeshi lines and help to correct the incapacity to observe

and appreciate facts and the taste for metaphysical and technical distinction, which too frequently mar the success of the Indian intellect in the great fields of human achievement. The liberal assistance provided by the Government of India will enable you to take an immediate step in advance; but do not believe that only by increase of funds can the University be regenerated. Ample work lies before you into which financial considerations do not enter. Forget, I beg you, the unhappy preamble of the Act of 1857, and keep, ever before your minds the highest University ideals.

Lofty Ideals

A University wrote Dr. Newman is a place where enquiry is pushed forward and discoveries verified and perfected and rashness rendered innocuous, and error exposed by the collision of mind with mind and knowledge with knowledge. It is a place which wins the admiration of the young by its celebrity, kindles the affections of the middle aged by its beauty, and rivals the fidelity of the old by its associations. "Universities" said Mr. Bryce recently at Adelaide "exist for the sake of truth." When such ideals are reached the building up of an Indian nation will make giant strides. Lastly I implore you to receive and welcome all serious proposals for reform even if they emanate from the head of the Government to discuss them from the educational point of view only, scorning suggestions of ulterior motives, and resolutely to keep clear of political methods in the conduct of your responsible deliberations. The University of Bombay now numbers more than twice as many students as are under training in Oxford and Cambridge combined and more than four times as many as in Liverpool University. The number will soon be further increased, and clearly this great aggregation is beginning to exceed reasonable limits. Before long sub-division will be essential and when the time comes, I trust that you will all realize that your personal dignity will not be affected in the slightest degree by a change which will simply mark the advance of India.

Students past and present—This is the last occasion on which I shall be able to meet you and I wish that I were able to say what might remain in your minds and inspire you in your future careers. My active life must shortly end. Yours is only just beginning. Before each one of you lie opportunities of helping in the building up of Indian nationhood. It has been well said that the first question a University teacher should ask himself is, "Am I rousing a spirit of enquiry in my pupils" and that if the answer is not in the affirmative the University fails in its objects. How far the spirit of inquiry has been roused in you is known only to yourselves. What you may have learned or are learning by rote will be absolutely useless. Everything that you have so learned as to cause a reaction upon your minds, opening out new fields of thought which you can exploit for yourselves, may prove invaluable. "The true test of intellectual progress," said Dr. Jowett, the great Master of Balliol, "is not acquisition, but the increase of the powers of the mind." If you can pass that test, then assuredly your time in this University will bear good fruit in your own careers and in the great life of India in which you can play worthy part. Character, knowledge and work will carry you far in any form or activity which you may select; but the character must be framed on high ideals, the knowledge perfectly assimilated, and the work patient and unflinching. "Talent." wrote Zola "sees oppportunity, genius creates it but only patience and labour reap its most perfect reward. To all that you may attempt, small things as well as great, give your best and be sure will gain in capacity and add new strength and symmetry to your character." "Nothing," wrote Michael Angelo, four hundred years ago, "makes the soul so pure, so religious, as the endeavour to create something perfect; for God is perfection, and, whoever strives for perfection strives for something God-like."

With all kindly wishes for your individual happiness and success, and with earnest hopes that you will each in some measure help in the advancement of India which is my fervent desire and for which I have laboured, I bid you farewell.

Punjab University

Dr. J. C. Bose

PROFESSOR J. C. Bose who is now lecturing in Lahore as University Reader in Physics of the Punjab University has offerred the whole amount of his honorarium, Rs. 1,200, for University lectures to be delivered at Lahore as a gift to the University for promoting research work in the Panjab. He has suggested that a research scholarship of a hundred rupees a month be given to a deserving student for one year. The Syndicate of the University has accepted the gift. An address of welcome was presented to Professor Bose by the Society for Promoting Scientific Knowledge, Lahore.

The Proposed Dacca University

Recommendations of the Dacca University Committee.

To my note on the recommendations of the Dacca University Committee published in the last issue of the *Collegian* I would like to add a few points.

The ideal of economic studies held out by the

committee will demand for its realisation a close intercourse between business firms and the Department of Economics. The student who will desire to specialise in Banking, for instance, will require occasional facilities for studying the methods of the actual administration of a bank. Again, the student who will seek to prepare himself for the position of an industrial *entrepreneur* will need general acquaintance with the actual operation of an industrial unit so far as its business aspect is concerned. But the scope of such practical training will, I am afraid, be extremely limited at Dacca, which can hardly be regarded as a business city in the modern sense of the term. I would also suggest that a lecture course in industrial chemistry be included in the curriculum of economic studies. The idea of economic teaching embodied in these suggestions has been more or less worked out at all the great centres of economic studies in America particularly at the Wharton School of finance and commerce of University of Pennsylvania.

Instruction in Economics.

While on the question of the teaching of Economics and political science, attention may be called to the fact that, so far as practicable, provision is made at the State Universities of America for practical training in political work. If the State University is situated in the capital of the state, as it ordinarily is, the advanced students of the department of political science would be occasionally taken by their Professors to the State Legislature, when it is in Session, and thus helped to study the actual procedure of legislation. Or they may sometimes be taken to a department of the State Government, and, so far as practicable, the organisation and the operation of the department will be explained. The Dacca University will not obviously be able to offer such facilities for political training, but it may very well lay emphasis on instruction in Municipal Government, not only of India but also of Great Britain, of Continental Europe, and of the United States; and it may enable its students to obtain some practical training in Municipal administration in co-operation with the Municipal authorities of Dacca.

Instruction in Political Science

In my note already referred to, I have said that, in view of the fact that members of the Department of Economics will be called upon to teach both Economics and political science and having regard to the degree of specialisation that has been achieved in these branches of learning at the great Universities of the West, the proposed strength of the staff in Economics will not be adequate. Economic History, Economic Theory, Currency and Banking, Transportation, International Trade, Public Finance and Taxation,—every one of these subjects will require a special student of its own. And, in political science, one specialist in political theories and one in Actual Government are absolutely necessary. I have got before me figures for the departmental faculties of two American Universities, *viz.*, Columbia and Nebraska; they show the strength of the staff in the two subjects in question to be fifteen at the former University and eight at the latter. And I am sure a reference to the faculty figures of such progressive American Universities as Pennsylvania, Wisconsin and California will lend support to my proposition.

Strength of the Staff in Economics

So far as teaching in arts is concerned, I wonder in what essential respect the Dacca university, if the scheme of organisation framed by the Committee be adopted, will mark a departure from the arrangements of Calcutta. We find that only in post graduate work the Dacca University will exercise the functions of a teaching institution; in other respects it will assume a strictly federal character, though its federation will be municipal as distinguished from the provincial federalism of Calcutta. The arrangement at Dacca will no doubt be in harmony with the system of compromise between College autonomy and university control that has been developed at Oxford and Cambridge, but it will not obviously attain that organic unity which we find at Berlin, Heidelburg and Leipzig, or at Harvard Yale and Columbia, or even at Tokyo and Kyoto.

Dacca as a teaching University.

A word may now be said in regard to the proposal for establishment of a college for the well-to-do classes, which has provoked so much public criticism. The idea providing separate College for the rich is not altogether novel; in Japan they have a Peers' School and a Peeresses' School both of the Collegiate rank in the city of Tokyo. The authorities of these Schools, while they do not deny that educational institution should ordinarily be organized on a democratic basis, maintain that in a society composed of sharply distinguished classes separate institutions are likely to further educational progress. It must, however, be noted that the two Tokyo schools are not maintained by the Government nor do they form part of the University of Tokyo. The chief objection against the proposed College for the well-to-do classes at Dacca is that as it will form part of a Residential University where other classes of students will be admitted, it will be detrimental to the growth of a corporate life and the development of healthy academic spirit. From what has been said it would appear that this consideration does not apply to the two schools at Tokyo. If, then, a College for the wealthy classes is deemed absolutely necessary at Dacca let it not form part of the Residential University of Dacca and let it be located at some distance from it. In this way the government may be able to work out the idea on the lines of the least resistance.

The College for the well to-do classes

S. C. Bose

THE HINDU UNIVERSITY

Holkar's view

Speaking at a meeting at Indore on the 18th February 1913, in connection with the visit of the Hindu University Deputation to Indore, the Maharajah, who has himself given five lakhs to the scheme said he believed that wiselv conducted a residential teaching university seeking to combine what is best in Eastern learning with Western science would do much to unite the Hindu, Moslem and European and sweep away unrest. He wished all success also to the proposed Moslem University, adding, "I trust that in time to come our University and theirs will stand out as two becons guiding the people of India to what is noble and true."

The Deputation in Bombay

The Hindu University Deputation headed by the Hon. the Maharaja of Durbhanga, and Pandit Madan Mohan Malaviya arrived on the 21st February 1913 at Victoria Terminus by special train from Indore after tour in Kathiawar. On arrival, they were met by His Highness the Aga Khan, Sir Balchandra Krishna and other members of the Reception Committee of the Hindu University Deputation.

Pandit Madan Mohan Malaviya in the course of a press interview referred to several questions which have been under recent discussion in connection with the University scheme. Subscriptions already amounted to 81 lakhs of which Rs. 21 lakhs were already in bank and in couple of months they hoped to deposit in bank 50 lakhs of Rupees which they were required to collect before charter could be obtained. They aimed at collecting four crores of rupees. If they desired to have a model university they must have at least a monthly income of one lakh of rupees. He was glad to say Mr. Narotumdas Moraji Gokuldas, Bombay, had given a splendid donation of one lakh of rupees. This was a good beginning in Bombay.

Referring to the letter of Sir Harcourt Butler regarding the refusal of the Secretary of State to allow of affiliation of Colleges outside Benares, Pandit Malaviya said, "We have submitted a representation to the Government of India on the subject and we do not propose to send a deputation to His Excellency the Viceroy. When we are in a position to show that the University has satisfied the expectations formed of it, when we are in position to convince Government that we are fit to control other colleges we will go to Government to ask them to reconsider their decision and grant the power of affiliation of other colleges to the University."

SOCIETIES & ACADEMIES

BANGIYA SAHITYA PARISHAD.—Professor H. Oldenberg paid a visit to the Library and the Museum of the Bangiya Sahitya Parishad on February 1st and recorded the following remark in the visitors' book :—"I have visited the building of the Parishad and seen the rich collections of the antiquities and MSS. with the greatest interest. May the noble effort through which the members of the Parishad contribute to the development and life of Bengali literature be crowned with fullest success."

MADRAS TEACHERS' GUILD—A meeting of the History and Geography section was held at the Hindu High School, Triplicane, with Mr. K. A. Viraraghavachariar in the chair when a lively discussion on the present position of English History in the S. S. L. C. scheme was carried on for nearly two hours. Resolutions were passed against too early specialisation and the too disproportionate importance paid to the special portion to the detriment of the outline knowledge of the subject as a whole. It was also resolved to request the Board to fix and publish the proportion of marks allotted in the public Examination for the outturn and special portions of the subject and also to request the publication of the report of the chief Examiner of every year for the information and guidance of the teachers.

MUSLIM LITERARY ASSOCIATION MADRAS—The fifth anniversary of this association was celebrated with the Honble Mr. Justice Tyabjee in the Chair. Among those present were Hon'ble Hajee Ismail Sait, the Hon'ble Mr. V. S. Srinivasa Sastry, Khan Bahadur Gulam Mohamed, Mr. Mir Sultan Mohideen Sahib Bahadur, Mr. S. M. V. Oosman Sahib Bahadur, Mr. K. B. Ramanatha Iyer, Mr. Mahomed Azam Sahib Bahadur B.A. Dr. Mahomed Oosmain Sahib, L. M. S., Mr. Abdul Amid Hazzan, Mr. Mahomed Muzzam Sahib, Mr. Yacoob Hussain Sait, Mr. Moulana Abdus Subhan Sahib; and Mr. Abdur Rahim Sahib (Superintendent of Post offices.)

Mr. Mohammed Nuruddin, Secretary, read the annual report on the working of the association. The six years of its life had witnessed diverse circumstances of failure and success. Forty members were on the rolls at the opening of the year under review, and fifty-six was the number at its close. The members had been attending the meetings with their usual earnestness and the improvement they had made in their power of expression was perceptible. It was a matter for regret that finance inspite of their constant appeals to the public made no improvement. The muslim community was

now awake to the call of duty, and it would strive to keep pace with the other nations in the general progress of the world. On the motion of Mr. Yahya Aly seconded by Mr. Mahamed Rucknuddin the report was adopted.

Mr. Mir Zynuddin, Bar-at-law in the course of his speech spoke at length about the educational facilities that were afforded to students in England for the development of character. He dwelt on the formation of character as essential to the uplift of a nation and advocated female education. The chairman in bringing the proceedings to a close said: They must all remember that religion was a great force that had been impressed and that had been handed down to centuries. They should be able to work and make use of it as it deserved to be made use of. Every one should remember that Islam is the master of that great force. The Musalmans must make the best use of that force. Islam had given them two or three leading principles of life, which they could not, at any rate, for a moment forget.

SREE SAJJAN BRAHMAN CHATRALAYA, RUTLAM (C. I.)—At the request of the Brahman community His Highness Major Sir Sajjan Singhji Sahib Bahadur K. C. S. I., Raja Sahib of Rutlam, very kindly consented to be the patron of the above institution and to preside over its opening ceremony, held on the 13th January, the auspicious date of his Highness's birth-day. It was all successful, the audience numbering nearly 4,000.

The report of the boarding house having been read, his Highness delivered an eloquent speech, insisting on loyalty to the benign British Government. His Highness was very much pleased at so rapid a progress of the boarding house as to have, just at the outset, 49 boarders of twelve different sub-castes and gave many valuable practical instructions to the community to make it a success. Before concluding his telling speech, his Highness graciously promised an annual grant of Rs. 1,500 to the Chhatralaya, and conferred the hereditary title of 'Seth' and the honour of attending the Darbar from hence to Bhimrajji and Narsinghlalji in appreciation of their liberal donations of Rs. 25,000 each to the boarding house fund. His Highness in conclusion congratulated Pradhan Shaligramji, the revenue member of the State council, and Pandit Shreeniwas Raiji, munsarim jagirdaran for their success in bringing the institution to its present stage and rendering it so popular as to have secured liberal contributions.

A managing committee has been appointed by his Highness to carry out the work of the above boarding house, the president being Rai Bahadur Pandit Brijmohannathji Zutshi, B.A., LL.B., secretary to his Highness.

THE COLLEGES AND SCHOOLS

CALCUTTA DEAF AND DUMB SCHOOL.

THE annual prize distribution of the Calcutta Deaf and Dumb School was held on the 22nd February 1913 under the presidency of Sir Lawrence Jenkins. Lady Jenkins presented the prizes. The gathering included Sir William Duke, the Hon. Raja Risi Case Law, Mr. Justice N. R. Chatterji, the Hon. Mr D. P. Sarvdhicary, Sir Gurudas Banerji, Rai Baikunta Nath Bose Bahadur, Babu Behari Lal Sircar, Soshi Bushan Mookerji, Dr. P. C Mazumdar, Pundit Rajendra Nath Vidyabushan, Rai Nanda Lall Bagchi Bahadur, Jotindra Nath Sen and Hem Chandra Sen.

SECRETARY'S REPORT.

Dr. Haridhon Dutt, as Secretary, presented the twentieth annual report in the course of which it stated that there were 54 boys on the roll on 31st December—49 Hindus and 5 Mahomedans. There has been no change in the method of teaching. The majority of the boys were taught to speak and read and write on the oral method, few who failed to responed to the oral method of teaching have been taught to read and write on the silent method.

The recently opened Technical Department has been making encouraging progress under Babu Mohini Mohan Mojumder, Technical Master, who also often helps in the general teaching work. With a view to the training of the hand and eye of the little beginners a small clay-modelling class was opened and the result proved so encouraging that it was thought desirable to engage the services of a specialist. Babu Manindra Nath Dutta Gupta of the Jubilee Art Academy was, therefore, appointed clay-modeller to work two hours every morning. Clay-modelling has been made compulsory as preparatory to free hand drawing. In the wood-engraving class there were two boys and eight boys learnt sewing. The committee feel it necessary to extend the Technical Department, but they are handicapped by want of funds.

The ex-pupils are doing excellent work. One of them Babu Harendra Nath Mukerjee has started a school for the Deaf and Dumb in Barisal his native district. Brij Behari Sahay, of Arrah has been taken in the Office of Surveyor General as paid probation. Another Mauli Bhusan Mukerji of 24 perganas is working as etcher under Messrs. U. Ray & Son artist.

Sir Lawrence Jenkins, the president in the course of an address, said he knew no work more

useful than that of training deaf and dumb boys, making them useful members of Society. In America the care of deaf and dumb people was regarded as a State duty. In England no special regard had been paid, until recent times, as a matter of State duty, to the education of the deaf and dumb. In India the position was not better than in Great Britain and the work mainly depended on private efforts. This school was fortunate, for he (the speaker), saw on the walls pictures of many distinguished officers of Government who had been interested in its welfare. When Sir William Duke was at the helm of the school, he (the speaker) was confident that its welfare would not be overlooked. He had read in the newspapers that the Government were engaging in a large and extended scheme of education. Under the new conditions, he believed that the Calcutta Deaf and Dumb School would not be left in the dark.

EDEN GIRLS' HIGH SCHOOL DACCA.

The distribution of prizes at the Eden High School for Girls, Dacca, by Her Excellency Lady Carmichael, took place on February 18th.

The annual report stated that three candidates were sent up for the Matriculation examination of the Calcutta University and passed successfully, two were awarded middle English scholarships, two vernacular scholarship, and three primary scholarship. In the Trinity College examination, seven passed for the piano, two for solo singing, and a singing-class of 33 girls; while three of the four candidates in the Theoretical examination passed. The number on the rolls has now reached 325 as against 262 last year, making an increase of 62. Of these, 185 are Hindus, 87 Brahmos, 28 Mahomedans, 21 Christians. 3 Anglo-Indians and 1 Parsee.

Her Excellency, Lady Carmichael in presenting the prizes, said:—I think it is most encouraging to see the way the mistresses here are able to interest their pupils in whatever subject they are teaching. I have never seen children show a more intelligent interest in what they are learning. This speaks well for the training of the mistresses, and I am glad to hear that several of the mistresses have actually learnt as pupils in the school. I think that is more encouraging, and all I say is, lucky is the school which gets a mistress who has been trained here. I have visited a great many schools in India and Australia, as well as in England, and in doing this one gets to realise very quickly if the work is thorough and inspiring to the pupils, and whether the discipline and organization are good. No school can succeed in turning out scholars who bear the imprint of successful training, unless discipline as well as learning has helped to mould their characters. And no school can be an entire success unless the teachers and pupils join together to take a pride in their school, with high ideal before them of what they mean to do in the future. No one can ever do all the good they ought to do in life unless they have learnt to sympathize with those around them, and to regulate their own conduct so as to help others; that is why we have to submit to discipline even if it sometimes seeems hard. But I am glad to believe that you are all, both mistresses and pupils, doing your best to help each other and to lighten each others task.

"It seems to me that girls in schools like this in India have a most inspiring ideal before them. You, in India have a great past to look back on. In matters of thought and of philosophy Indians have done very much for the world as a whole, and in moulding what is best in Indian character women have played a most important though unobtrusive part. But in the development of the world, in the struggle for existence which has brought new forces to bear in India, it is necessary for Indians, if they are to take what I hope is the position in the front they mean to take, to learn a great many things which till recently they did not require to be interested in. And Indian women are beginning every day more to learn to get into touch with modern needs. Very much will depend for India on how Indian girls and women do learn. They will, I trust, do much while holding on to all that is noble and soul-inspiring in their own national traditions and national thought to help India to grasp the other great truths which have been brought owing to different circumstances, to a fuller development in other countries."

A vote of thanks to Her Excellency was proposed by Nawabzadi Aminabanoo Begum Sahiba, who said Lady Charmichael had laid them all under a deep obligation by consenting to preside over the function of this evening. Her Excellency's presence here, she continued, is a guarantee of the keen interest she takes in the causo of Female Education, and shows how very anxious she is to uplift her Indian sisters. "I am very pleased that excellent pardah arrangement has been made of late, in the Eden High School for girls and it has begun to attract Mahomedan girls. I could not have been here to take part in this interesting function but for the excellent pardah arrangement made by Miss Sorabji, the Lady Principal. Her devotion to duty and her efforts to make the school popular with all classes and creeds is most admirable."

KING'S HOSPITAL, CALCUTTA.

On Saturday the 22nd February, Sir William Duke visited the King's Hospital (National Medical College). He was conducted over the Hospital and conversed kindly with the patients in fluent Bengalee. He then proceeded to the quadrangle where the assembled students gave him a most cordial welcome. Dr. S. K. Mullick spoke on behalf of the institution, and Babu Mahendra Chandra Lahiri, one of the trustees of the Hospital also added a few words of welcome. Sir William Duke, in reply, said he had long recognised that the medical education imparted by Government institutions was not sufficient to cope with the demands of the country, and he had watched with interest the work of private medical institutions, such as this, founded by Dr. Mullick, his associates, and others. He was glad to get first

hand information about this movement. He had gone through the Hospital, class-room, and laboratories ; and had been much interested in the work done.

St. Joseph's College, Darjeeling.

The President of the Old Boy's Association has issued a notice for the celebration of the Jubilee anniversary this season.

Twenty-five years ago, Father Depelchin with his small band of Jesuit Fathers opened at Sunny Bank the little school which, having been transferred a few years later to North Point, has developed into the present well-known St. Joseph's College.

It has been suggested that the jubilee anniversary of the foundation should be fittingly celebrated, and the College authorities acting on the suggestion have decided that the celebration should take place at the time of the ensuing Puja holidays.

Many Old Boys have already welcomed the news and expressed their desire to show in some practical way their affection for their Alma Mater and gratitude to their former masters. It is felt that other friends and well-wishers would also like to join in adding eclat to the celebration.

The festivities will take place the first three days of October, when it is intended to organise Athletic Sports, a Dramatic Entertainment, concert illumination and fireworks. A Solemn High Mass of Thanksgiving will be sung by an Old Boy.

T. N. Jubilee College Bhagalpur.

The Director of Public Instruction of our Province writes a Bhagalpur correspondent, was recently on a visit to the T. N. Jubilee College. He remarked on the want of accommodation on account of the College and the School being held in the same building. He has left an urgent "takit" for the removal of the College to its new site as soon as practicable. It is rumoured that the attention of the University authorities has also been drawn to the fact and they have been asked to take drastic steps against the College. Let the College authorities be up and doing, otherwise who knows what might crop up.

Murarichand College Sylhet

The Chief Commissioner has selected the Petersan Street site for the location of the Murarichand College. The decision has given universal satisfaction.

Chittagong School.

Mr. Adinath Ray, Head Master Collegiate School, invited all the guardians and parents of the boys reading in his school to an evening party in the school premises on the 16th instant. The gathering was informal the object being to create cordial relationship between the teachers and the guardians of the pupils to facilitate teaching work. Mr. Cloyton, District Magistrate, was present. Mr. Ray accorded a very cordial reception to all and entertained them with music and light refreshments. Many guardians and parents attended the meeting and formed their acquaintances with the school staff. Mr. Clayton and other gentlemen freely discussed topics of local interest in a very homely manner.

Rangoon College.

A *commnnique* states that the Secretary of State has appointed Mr. T. Z. D. Babington, B.A. of Magdalen College, Oxford, to the Indian Educational Service as additional professor of English at the Government College, Rangoon.

Presidency College, Madras.

Subrahmanya Ayar Scholarship.

A senior scholarship of the annual value of Rs. 114 with be awarded in the first term of the academic year 1913-1914. Only poor Hindu students are eligible. It is tenable either in B.A. pass or honours classes.

Maharaja's College Vizianagram.

The past and present students of the Maharajah's College assembled in large numbers on 16th instant in the college premises to celebrate the Silver Jubilee of the Principalship of Ray Bahadur K. Ramanujachariar, M.A. B.L.F.M.U. The venerable Principal was taken in procession from his house to College and his arrival there punctually at 4-15 P.M. was the signal for much enthusiasm among the audience. Mr. N Gulfa Rao Pantulu presided. After a few songs and verses were recited by Pundits, an Address was read on behalf of past and present students by Mr. V. Venkatraja Sastri, B.A. a professor of the College, of which the following is the brief summary,—"We the past and present students and the staff of the Maharajah's College rejoice to congratulate you on the rare privilege you have enjoyed of presiding over this College for over a quarter of a century in a manner that has placed beyond doubt the capacity of Indians to hold such places of honor and responsibility. The combination in you of Eastern and Western culture, your example of severe simplicity firmness and sympathy and your upright character are praiseworthy and they form ideals which should guide the students in years to come." After a few speeches by some past students Rao Bahadur Ramanujachari Garu replied in fitting terms.

INDUSTRIAL EDUCATION OF INDIAN ARTISANS.

By Professor Radhakamal Mukherjee M. A., Krishnath College, Berhampur, Bengal.

One of the important causes of the decline of our cottage industries is the inadequate industrial education of our craftsmen. The caste, indeed provide an excellent system of training them at the minimum of cost, but the system has to be improved to meet the present requirements of industry. In the existing system of industrial education, the boy learns the rudiments of his craft from the family members at a very early age when he is five or six years old, he is apprenticed at the shop of his father or of a caste relation and acts as his menial servant to begin with. He cleans the tools, supplies them to the master workmen while they are at work and thus gradually knows their names and begins to understand their use. He is then given the rougher and the elementary portions of the craft and gradually becomes useful to the master.

At this stage he gets a stipend which rises from Re. 1 to Rs. 10 per month according to his ability. As he advances in knowledge he is given the finer portions of the craft till he becomes a skilled artisan and chalks out his career independently.

The masters seek to develop in the pupils, character, professional and general aptitude for their work and efficiency and skill receive ample recognition in the shape of the increased amount of the stipend. The secrets of the trade are in the air of the household and imbibed by the apprentice according to his receptive capacity. Thus the admirably systematised teaching tends to train a class of skilled workmen and conscientious artisans which adding to the wealth and well-being of the people hands down to posterity the hereditary knowledge of the craft accumulated for centuries. * But the indigenous system labours under one great short-coming, the apprentice gets no liberal education. There is a pitiable lack even of the most ordinary education in the vast majority of those who play their crafts in work-shops. Imitation and not training being the principle, the pupil cannot be more skilful than the master, so the art soon becomes stereotyped. In fact, the same uniform and uninteresting patterns are sometimes produced and handicraft is degraded to the level of manufacture. Again, competition being restricted only to the same castemen, the stimulus for improvement is to a certain extent removed. The isolation of the craft tends to narrowness and consequent stagnation. The artisans adhere too closely to a few old patterns and seldom adopt new implements or new methods of manufacture.

With regard to our artisans, Sir G. Birdwood has remarked, heredity is the secret of the Hindu's excellence in the industrial arts; and when you praise a goldsmith, or wood- or stone-carver or weaver or potter for his work, he would reply that he was but handing down the ever accumulating merit of his forefathers through nearly 3000 years past to his children and children's children and he prayed it might so accumulate through them for yet 3000 years to come. Such facts should not be overlooked when considering the pressing problem of technical education in every department of industrial activity and enterprise throughout the United Kindom. (Sir G. Birdwood in Journal of the Royal Society of Arts, 1911).

It is well known that a very large proportion of the things turned out by our craftsmen are made by methods that should be obsolete and with old and very defective tools. All this reduces the profits of the craftsman and prevents him from spending what he ought to do on new tools and appliances. Worse than this, he has not learned his craft properly and has none of the mechanical resource and dexterity of his equals in Europe. Thus the brass founder sticks to his traditional Indian ways by means of which he makes good single castings while his rival with just the same amount of preparatory work turns out twelve. The Indian cleans his cardings by hand; the European puts them in an iron box and makes them clean each other, and finally the European deals with them in clusters on a machine or grinds them to shape with emery or other wheels, while the Indian laboriously finishes them singly with a blunt file and a hand burnisher. All this has to be remedied by a well-organised system of education.

It would not do however if we merely imitate the methods of the West for they have their characteristic defects. There are two methods of industrial instruction which now prevail in Europe, *viz.*, the workshop and the school method. The former emphasises trade-interests. The apprentices and artisans get their art and technical lessons in and through work. Great attention is paid that the commodities are saleable: art-considerations are often neglected to make the commodities marketable and cheap. Thus workshop method hampers the growth of those industries in which the beauty of product rather than the utility is sought for, it will be found to be decidedly inferior to the indigenous method where patience and aesthetic perception are more valuable than cleverness and utility. Indeed the popular art—the art of the

* It is acknowledged by industrial experts that heredity is of immeasurable value in the maintenance of high excellence in the practice of the artistic industries, or the applied arts generally.

people, hand in hand with every handicraft inseparable from life and use, the spontaneous art of the cottage artisans will be altogether crushed out of existence if the workshop method of industrial education is introduced. Already the workshop method has been discredited in Europe and preference is shown to the school of art. The school of art attaches no importance to commercial interests. It seeks to diffuse art education among the artisans and considers that the mere teaching of art will be sufficient to make their handiwork artistic. As a result of this the artisans become mere receptacles of some abstract ideas and cannot utilise them in their everyday work.

In many cases they cannot work in their own account and thus become almost useless so far as their trade is concerned. They may become good hack designers, but never artists. "Whatever the cause, there seems no doubt that at the present time comparatively little attention is being paid by the schools to design for manufacture. Until some years ago the artistic crafts had been neglected; now, that they are not only considered, but they take the first place. It is a pity not indeed that students should design for the crafts, but a greater number of both teachers and taught do not realise how necessary it is that design for manufacture should be our consideration. It is wrong to ignore the artistic possibilities of the more ordinary objects. It would surely be a higher aim to try to make manufacture artistic as far as may be, than it is to turn one's back on it or stand aloof in proud superiority."

The continental schools have striven to attain the two objects together. The apprentice turns out the goods themselves and learns the processes of manufacture necessary to guide them in connection with the designs. He understands the limitations of his design which are necessary for its adaptation to his own handiwork and thus the more effective co-operation between the design and the work, the ideal and the real, is secured. The teaching of art thus goes hand in hand with the proper teaching of a trade. The art flourishes all the more healthily from the fact that the student looks upon it as part of the necessary working equipments for his trade and has not much temptation to consider his immature efforts at design or adoption in the light of artistic achievement. The continental system reaches its perfection in the school of Industrial Arts, Geneva, which is "setting a great and salutary example to Europe giving a new life to art and a new tone to that life throughout the world". The students in school are practically apprentices, paying no premium, receiving no remuneration, and turning out excellent work under the direction of experts. All materials—such as marble, gold, silver—are supplied free; the articles produced become the property of the school and their sale is a source of revenue. A pupil of talent is even assisted in his living expenses, so that he might not be hindered on the road to success by extraneous worries. "The conditions differ entirely from those which obtain in our English Schools of Arts. There is no preponderance of immature learners acting as a drag on the class work, no attendance merely to pass the time; the single endeavour is to teach and to learn some art trade in the most perfect manner. Complete and saleable work is insisted upon in every department, nothing sketchy and unfinished is allowed to pass; every trained student can command his price in the market and on leaving the school can immediately command a fair salary." *

Thus in the School of Industrial Arts, Geneva, the defect of the Indian apprentice system is removed by insisting that pupils must have passed the primary schools in order to qualify for entry. Theoretical lessons are also imparted in the school. The school for teaching decorative art directs special attention to theoretical work; the school of industrial art devotes itself exclusively to the practical side, but does not allow pupils to neglect those studies in design, modelling and composition which are indispensable for the successful practical pursuit of any artistic craft. Thus when a pupil has selected a craft—enamelling for example—he must study several subjects which will bear upon it from an artistic point of view. At the finish of his time, he is something more than an enameller; he is an artist and is looked upon by employers as infinitely better than one who has been apprenticed in a workshop. Evening classes are also held for artisans, who cannot attend instruction in the day time at which instruction is given in free-hand drawing, Geometry, modelling, drawing from the antique, the caste plants and still life, with short lectures on the history and development of art; finally designing and painting enter into the curriculum in addition to the ordinary course of technical education and practical work in evening classes. The aim has been to direct the pupils to consider, wherein beauty consists and to encourage their individual artistic expression of it. Drawing is thus the basis from which the edifice is reared; art training begins with the lessons in drawing.

The Indian system ought to adopt these principles of industrial education and organise instruction in drawing and designing on a large scale and on a serious footing as its fundamental basis. It is high time that we should endeavour to improve the artistic education of our young apprentices by adopting the western system of teaching

* Journal of the Royal Society of Art, 1911.

which will cultivate the taste for beauty and diffuse sound knowledge of its rules. Again the artisans have to be lifted out of their narrow groove and their natural horizon improved if they are to produce fine work. With the lessons on drawing and designing, arrangement has also to be made for imparting such general education as will enlarge his mental vision while preventing him from falling into a clerical groove. The handicraft side of training should not also be neglected. In order to encourage industries, the institutions for industrial instruction must make it their concern to promote industrial and artistic activity not alone by theory but chiefly in a practical direction.

This would strengthen the intimate connection between trade and educational interests which characterises our industrial life. It would reinforce most of the dying art industries by giving them fresh life, through the adoption of the modern methods of organisation and of systematic teaching of the trade. The old organisation will be redeemed and purified and be more efficient for the long known uses of its own evolution.

R. K. MUKHERJEE.

SCHOOL LIGHTING.

By Daniel H. Ogley, B. Eng., Royal Technical Institute, Salford.

The premature decay of eyesight, as evidenced by the increasing number of spectacle wearers, called forth from the German Emperor some short time ago the remark that man was not born to wear glasses. It is not only in Germany, however, that early deterioration exist, as a perusal of the reports of school medical authorities will make it clear that in Britain a large percentage of children are defective as regards sight. Some argue the percentage was as great, or even greater, in earlier times, and that it is only the medical examinations of our time that is giving voice to the complaint; but to anyone who has made a study of illumination and of the effect of sources of high intrinsic brilliancy on the nerves of the eye, it is felt that unscientific lighting conditions are, in part at least, to blame.

Science of illumination has been, in comparison with the attention that has been given to other branches of the subject, woefully neglected. Gas and electric engineers were, until quite recently, much more concerned with the question of obtaining an additional 1 per cent. from a boiler or dynamo than with that of the correct disposition of the light units, and this in spite of the fact that a much greater saving could easily be effected by anyone who understood the requirements of good illumination. It is felt more and more strongly that what is really needed is an illuminating engineer, apart from the gas or electrical engineer, although the latter by special study could, no doubt, qualify for the position of the former.

School lighting, since it is in their school days children are in the most easily influenced stage of their developement, need special attention; and one cannot help but feel that the contractor with rule-of-thumb methods should be banished and his place taken by the expert before further damage is done. The medical man examines the eyesight of a child, finds that it is defective, gives an order for certain kinds of glasses, and proceeds with the examination of the next child. The cause is hardly ever inquired into, though in many cases it would be found that incorrect illumination of the premises was in great part to blame. If in addition to the examination of the children the school was also examined and the effects of the light units carefully studied, much more good would undoubtedly result on the removal of the cause of the mischief. It is quite easy to arrange for good illumination, although a departure from the recognized standard is to many people, no doubt, a crime.

The eye has through the ages become used to light from the sun—that is, to light coming from above. The source itself is not visible, and objects are seen by reflected and diffused light only. The entrance into the eye of intense light from any other direction causes great discomfort, and may result in injury to the nerves. This is because the eye has no protection from light from any source but above, and at once it becomes evident that the sources of illumination should not be within direct vision of the scholars. That this is not so is apparent on viewing the lighting arrangements of any school, for in almost all cases the lamps are hung so that direct light can enter the eyes of practically the whole of the class.

The normal eye can regard with equanimity a source whose intrinsic brilliancy does not exceed, say, five candle-power per square inch. An ordinary candle placed within the line of vision will produce no harmful effect. The intrinsic brilliancy of the poorest carbon lamp is over fifty, and in the case of a good metal lamp may equal eight hundred candle-power per square inch. The result of placing such a lamp in the line of vision is that the pupil contracts in order to protect the retina from the entrance of too much light, dazzling results, and the rest of the field appears too feebly illuminated for clear and easy vision, although it may be quite well enough illuminated under ordinary circumstances.

It cannot be too strongly emphasized that exposed light sources of great intrinsic brilliancy constitute a severe source of eye trouble when placed directly in the field of view, and should be

avoided under all circumstances. Evening students are subjected to this annoyance to a much greater degree than day students are, and when so seated that a lamp is in the direct line of vision find it practically impossible to distinguish characters on the board. The excessive brightness produces an intense image and causes injury to the retina, while the pupil contracting to protect the eye reduces the amount of light entering from the board, and so renders the characters indistinct. Lecturers have been known frequently to complain of headache and eye-strain after evening lectures, and in nearly all cases it has been found that the board was illuminated by means of a row of headlights placed directly within the field of view. The field may, on the other hand, be too feebly illuminated, and in this case, the images not being distinct, the eye grows fatigued in its effort to sharpen them.

If, owing to existing conditions, it is found impossible to avoid placing the lamps within view of the scholars, a diffusing medium should be used to reduce the brightness of the surface. The lamps may be frosted or use made of some of the many excellent globes at present on the market. Critics will immediately urge loss of efficiency, but in view of the high efficiency of the present-day illuminants the loss of some part of the available energy is to be preferred to the ruin of eyesight.

The question arises as to how the lights should be placed to avoid direct vision. It is, of course, possible to place them at a sufficient height to avoid any but occasional glimpses of them, but if the direct system is in use the better plan is to insist on adequate shading. The inverted system has much to commend it. The light is thrown on the ceiling, which latter reflects by diffuse reflection, the source being completely out of the field of view. Arc lamps give trouble and require constant attention, so that for schools with no skilled attendant the use of glow lamps is to be recommended. The absence of shadows is rather wearisome, and objects appear flat, tiring the eye in the effort to perceive them correctly. The inverted system, with a certain amount of direct lighting to produce shadows, is perhaps better.

The illumination of the board is of special importance. Head lights are injurious to the lecturer, and produce glare if there is any polish on the board surface. Very rarely is the surface correctly illuminated for all members of the class. Lighting by lamps placed along the edges and screened from view gives good results, although it requires a dead black surface to avoid reflection. Reflection should also be avoided from desks and matter placed thereon. In this respect may be mentioned the irritation caused by reflection from white road surfaces, such as that of a promenade or stretch of shore.

The same annoying glare may be caused by bad disposition of the light units and the direction of the light should be given very careful attention to ensure that no harmful reflection will take place. If light is received over the left shoulder, glare will be avoided. The paper surface, going to extremes, may even receive attention, and that with a high surface glaze avoided as giving rise to harmful glare

A point on which too much stress cannot be laid applies to the steadiness of the light supply. It is well known that the eye is provided with an automatic screen—the iris—which regulates the amount of light entering the eye. This screen is not instantaneous in its action, as is evident on passing from a dark to light room. If the source is varying in intensity, the iris can no longer adjust itself sufficiently quickly to protect the retina, which becomes strained in its effort to maintain clear vision in the varying field. Flickering gas jets are sources of much trouble, and in this connexion it may be remarked that metal filament lamps, owing to the low specific heat of the metal, respond much more readily to changes in pressure than do carbon ones. Their intensity will then vary more on a circuit in which the pressure is not adequately controlled—or, in other words, flickering will be more pronounced.

The illuminants employed should yield a spectrum resembling that of daylight as closely as possible. Hygienic considerations require an avoidance of light containing an excess of ultra violet rays. The mercury vapour lamp though useful in many ways, should not be used for school lighting. Perhaps preference should be given to light of a faintly reddish tint, as it makes objects appear warm and cheerful, and for this reason the carbon lamp is to be preferred to the metal lamp yielding a whiter light.

With regard to the natural or daylight illumination, attention should be paid to the fact that the whole of the room is sufficiently illuminated. In many cases the windows are so placed that those close to them are in far too strong a light, while others at some little distance experience difficulty in appreciating detail. To receive light over the left shoulder, it would appear that the windows should be placed to the left of the class, or the desks arranged to produce the desired effect. Direct measurement of illumination should be insisted upon, remembering that for most purposes an illumination of one foot-candle is sufficient. It is to be hoped that in time the question will receive the attention it deserves, and the whole of the lighting carefully planned before the construction of any building is commenced.

D. OGLEY.

THE SONNETS OF SHAKESPEARE.

By Miss. J. M. Evans, B. A.

At the time when Shakespeare's sonnets first appeared they were not recieved with any great enthusiasm by the literary people of that day; in fact they were unfairly eclipsed by the poems of *Lucrece* and *Venus and Adonis*. Now, this verdict is completely reversed, for the poems have sunk into insignificance beside the series of one hundred and fifty-four sonnets which clearly show that Shakespeare was a poet as well as a dramatist. With regard to the much-disputed question of the origin of these sonnets, three main theories are held. In the first place some critics assert that they form a sort of literary exercise referring to no particular person. The second surmise is that they are addressed to a literary patron, and the third that the object of these tributes is a friendly young noble. On the whole, the last suggestion seems to bear the highest stamp of probability though of course there is some foundation for each of the other ideas. Thus, with regard to the first, it is perfectly true that such literary exercises were as old as Petrarch and were quite frequent in Elizabethan times, and the only reason for regarding this view as untenable is the fact that Shakespeare's sonnets themselves suggest the presence of a real personal passion. The object of this affection is clearly enough some person of high rank, but critics again differ as to his relations with the poet. According to the upholders of the second theory the sonnets simply embody that conventional flattery which was due in Elizabethan times from the poet to his patron, and the series of sonnets (78-86) which deal with the demerits of a rival poet seems to be a bold attempt to win the monopoly of the patronage of a certain young nobleman. Still disputants of this point of view are able to point to the fact that the tone employed is not always one of flattery; sometimes, indeed, it embodies actual reproach, while elsewhere the tone is so endearing as to be quite unusual in the mouth of a mere client. Therefore the safest theory to fall back upon seems to be that of the noble young friend, and this derives support from the fact of Shakespear's pre-occupation during this period with the subjects of love and friendship in his plays. Having accepted this theory, however there still remains the question of the identity of the young man. This question too brings in one more debatable point with regard to the date at which these poems were composed. Critics usually agree that the object of Shakespeare's affections in the sonnets was either the Earl of Southampton or the Earl of Pembroke. Now if we suppose that the bulk of the sonnets was written by 1594, the date when the sonnet fashion was at its height, we can without trepidation enrol ourselves on the side of those critics who are firmly convinced that Southampton was the friend in question, but a later date for the composition of these poems renders him impossible, and this apparently is the case. Really there is only one sonnet of the date of which we are certain, that being the 107th, which was written in 1603, and the earliest mention of the sonnets is that made by Meres in 1598. It is true that neither of these dates precludes that of 1594, but we have an almost sure test, which appears to render that date impossible. It is well known that certain expressions are apt to occur again and again in the course of a composition, and it is by these "repeated expressions" that we can partially solve the difficulty both of the date of the sonnets and of the person to whom they were addressed. Now Shakespeare frequently uses a phrase or word once or twice in a single play and never again; therefore if that phrase occurs in both a sonnet and a play, the probability is that these two works belong to the same period. Parallel passages in plays and sonnets have been remarked, and if a few examples are given the intelligent student of Shakespeare will be able to discover several others for himself; thus we may compare Sonnet 33 with I. *Henry IV* (I. ii. 231), Sonnet 54 with I. *Henry IV* Act I., Scene iii. Line 176, and with *Much Ado About Nothing*, Act I., Scene iii., Line 28. Other comparisons can be made with *Love's Labours Lost*, which was revised in 1597, and with *Hamlet*, which appeared after 1600. This argument clearly suggests as the date of the sonnets, the year 1597, and onwards. If this be accepted Southampton cannot be the young noble to whom the sonnets are addressed, for in Sonnet 126 the friend is addressed as "a lovely Boy," and it would have been rather absurd to apply this remark to Southampton who was then thirty years of age. Also the publisher Thorpe inscribed his book to "the only begetter of these ensuing sonnets Mr. W. H.," these being the initials of the Earl of Pembroke. It is true that Southampton's name was Henry Wriothesly, and his initials might possibly have been reversed, but this is not very likely. It is impossible to account for the identity of the dark lady in these sonnets; some critics wish to identify her with Mary Fitton, a maid of honour, but this identification is impossible since this lady is known to have been undeniably fair.

The sonnets divide into two main groups, the first of which is composed of Sonnets i. to cxxvi. which are addressed to a youthful friend, while the second group form a sort of appendix written either to, or about, Shakespeare's "dark lady." Further divisions also may be made in the first

group ; thus Sonnets i. to xix reproduce partly the theme of *Venus and Adonis*, since the theme of marriage is dwelt upon together with the frailty of beauty ; the next series until sonnet xxxii. deals mainly with thoughts of absence, and this train of ideas is followed by mention of some injury done to the sonneteer by his friend. In their metaphysical flights and vein of contemplative melancholy Sonnets lvi. to lxxiv. seem related to the *Hamlet* period, while Sonnets lxxvii. to lxxxvi., which deal with the rival poet, have given rise to much controversy, since critics cannot agree whether the works of Marlowe, Daniel, or Barnaby Barnes form the theme of these poems. The remainder of the first group of sonnets is entirely devoted to the "noble young friend."

The form of the Shakesperian sonnet, which consists of three quatrians and a concluding couplet, is non-Petrarchan in kind, and was an arrangement devised in the first place by the Earl of Surrey. The thought of the sonnet was developed in three stages, and then summed up in the final couplet.

Any study of Shakespeare's sonnets will well repay the trouble spent on them, for they furnish a complete anthology of poetic ideas, couched for the most part in splendid language and giving us some degree of insight into the life of that Elizabethan age in which Shakespeare lived and wrote.

J. M. EVANS.

[N. B. This article first appeared in the Normal Correspondent.]

LITERATURE OF THE ROMANTIC AGE

(1798-1832.)

(CONTINUED FROM PAGE 266.)

In spite of Spenser and Bacon, the Elizabethan Age was essentially an age of drama—of Shakespeare. Spenser was one of the greatest poets of England ; Bacon, Hooker and Taylor gave us specimens of splendid prose style ; but still Shakespeare overwhelms them all. He is the lion of his Age. It is due to no failure of intrinsic worth that Spenser, Bacon, Hooker and Taylor thus glide away in the background, but it is the extraordinary splendour of the "sweet swan of Avon" that overshadows the lesser glories of his great contemporaries. In fact, far from being in the back ground, they are really in the forefront, but they appear as unostentatious, pigmy things beside the gigantic figure of Shakespeare—the greatest poet-dramatist of the world.

But the Romantic Age did not allow this sort of monopoly and resented the very semblance of it. When we are with the poets, and of them, with Wordsworth, we feel him the greatest man of the hour ; Shelley and Byron come up and claim their places, and we find that they are as much prominent as our favourite just now. So that, instead of one greatest poet, we are confronted with quite a number of them, whom we find ourselves at sea, to allocate in their seats. Again when we go to consider the prose literature of the period we find ourselves before a brilliant galaxy : the fiction divides the palm between Scott and Jane Austen, while essay and criticism claim a number of first class men—Coleridge, Hazlitt, Lamb, Shelley and Wordsworth ; and there were the magazine-writers, like Jeffrey, Sydney Smith and Lord Brougham, in the bargain. And if prose shone in the hands of Scott, Coleridge and Hazlitt, poetry did shine as much brilliantly in those of Wordsworth, Byron and Shelley.

To speak of the prose literature of the Age of Wordsworth is to rehearse the history of a rich out put of fictions, essays and critiques. The history of the fiction falls into two well-defined stages—that before the publication of *Waverley* in 1814 and that after 1814. Before the publication of *Waverley*, novels had hardly any standard to go by. Manners differ as individuals differ. But after *Waverley*, the stream of fiction literature was, as it were, flowing in its own true channel. The great novelist, indeed transcended petty differences, and the novels that were published after *Waverley*, were all reared in the hot-house of the Scotch novel and these distinctly indicated the influence of Sir Walter Scott. Indeed, there was no escaping it. The novels of the later period were marked by a certain richness of invention and accomplishment of art, which the earlier period, so hopelessly lacked.

The history of the novel of the earlier irregular period may be told in a few words. The representative novelists of the eighteenth century were Fielding, Richardson, and Horace Walpole. Fielding was the founder of what has been called the "comedy of manners" in prose ; Richardson is the representative of the romantic element in English novel, and Horace Walpole told the tale of terror, Fielding's novel of manner was modified to "feminine and domestic" novel by Francis Burney and to "travelled and cosmopolitan" by Dr. John Moore. Richardson's sentiment, filtering through Sterne, rested on Henry Mackenzie. Horace Walpole's novel of terror produced the imposing oriental images of Beckford.

Such were the characters of the novels of the eighteenth century. In the last part of the country as well as in the earlier part of the nineteenth century, these features underwent change. They were mixed up and out of the intermingling emerged other varieties. Miss Edgeworth reduced the "novel of manners" to mere unworkable theories

or doctrinarianism; and Walpole's "novel of terror" was reduced by Mrs. Radcliffe to froths of sentiment and emotion.

In this way, a ferment was going on, till Waverley appeared in 1814. By this time, the revolutionary elements, so long dominant in the English novel, had blunted their edges; and *Waverley*, too, had a value of its own, by which it made its position felt, and laid down the model for the future artists.

Scott is justly considered to be the creator of the historical novel in English language. In his novels, broad historical facts find place side by side with sentiment and the greatness of Scott consists in perfect reconciliation of these two elements. Scott kept the balance true. And this is work of no ordinary skill. Even in novels whose subjects are not historical, we find a historical setting, behind the main plot.

Like Shakespeare, comprehensiveness forms the chief characteristic of Sir Walter Scott's novels. He draws the life and the manners of days long past, as well of his contemporary times. He is equally adept in the portraiture of princes and peasants, soldiers and citizens, papists and puritans, christians and heathens, Jews and Jacobites, gentlemen and robbers.

It is not alone in the quantity, but also in the quality that credit is due to Scott. He wrote fictions to the number of twenty-nine. Many have written as many or if less, little less: but few have used their pencils to such effect as Scott has done.

Waverley was written in 1805, with a second title, "Or, tis Fifty years since." Scott had lost the Mss. and did not find it till 1814, when the second title was changed to "Sixty years since;" *Waverley*, given to the world in 1814, was published anonymously; it was followed by a series of twenty-nine novels during the next seventeen years i.e., between 1814 and 1831. The generic name was derived from the name of the very first novel of the series.

These novels are either historical or of private life. Scottish, English and continental histories have all their due shares. It would be nothing but interesting to go over the list of Waverley Novels, as classified and arranged by T. B. Shaw.

I. History: (i) *Scottish*
- 'Waverley' (the period of the Pretender's attempt in 1745)
- 'Legend of Montrose' (the Civil War in the 17th century).
- 'Old Mortality' (the rebellion of the Covenanters).
- 'Monastery', and 'Abbot' (the deposition and imprisonment of Mary, Queen of Scots).
- 'Fair Maid of Perth' (the reign of Robert III).
- 'Castle Dangerous' (the time of the Black Douglas).

(ii) *English.*
- 'Ivanhoe' (the return of Richard Coeur de Lion from the Holy Land).
- 'Kenilworth' (the reign of Elizabeth).
- 'Fortunes of Nigel' (reign of James I).
- 'Peveril of the Peak' (reign of Charles II, period of the pretended Catholic plot).
- 'Betrothed' the wars of the Welsh Marches).
- 'Talisman' (the third Crusade: Richard Coeur de Lion).
- 'Woodstock' (the Civil War and Common wealth).

(iii) *Continental.*
- 'Quentin Durward' (Louis XI and Charles the Bold).
- 'Anne of Geierstein' (the epoch of the battle of Nancy).
- 'Count Robert of Paris' (the Crusaders at the Byzantium).

II. Private Life and Mixed.
- 'Guy Mannering.'
- 'Antiquary.'
- 'Black Dwarf.'
- 'Rob Roy.'
- 'Heart of Midlothian.'
- 'Bride of Lammermoor.'
- 'Pirate.'
- 'St. Ronan's Well.'
- 'Red gauntlet.'
- 'Surgeon's Daughter.'
- 'Two Drovers.'
- 'Highland Widow.'

The importance of Waverley Novels consists in "excellences of characterization," and in "harmonious development of plot," All the characters of Scott are reproductions from genuine and nervous life. All artificiality and sham he eschewed and only dealt in reality and not in abstraction. Scott was, again, the first to show how much of history should be annexed with how much of fiction, in order to produce historical novel. The plots develop naturally. Thus came out a series of harmonious, consistent, perfect and artistic series historical novels,—a series which can assert its own among the multitude as genuine productions of art and genius. No amount of culture and attempt would have enabled Scott, to point two sides of the character of Mc. Ivor, and the Highlanders—the romantic and the historic sides—had not genius been his handmaid.

"In creating historical novel," says Craik, "Scott gave a vivid impulse to fiction. He could complicate the progress of the individual romantic story with the march of great events in a masterly manner. He also had a strong sense of

objective things so the folk of fiction no longer moved about in worlds not half realised, but walked substantially in an environment of time and place with which they were vitally connected. The extraordinary variety of the characters, ranging from the perfect studies of royal personages like Louis XI. to those of sorrowful outcasts like Madge Wildfire, cannot be adequately suggested here. Neither can the skilfully involved humour and pathos of his treatment of human life delicately restrained as these great qualities are, for Scott had a well bred honor of sentimental debauches. All these matters he expressed in a style which was occasionally lax and hasty, but which could at times reveal qualities of great beauty and graciousness."

Scott took a wide latitude in the manipulation of historical facts, in order to fit them to the romances. Still, he never forsook history to any very great extent, so much as to make himself appear to be too deeply interested in his lay figures. No novelist before Scott could weild his pen so successfully as to accurately and faithfully present the pictures of great historical personages in the midst of romantic surroundings. By absorbing studies in history, his imagination worked out living men, quick with throbbing life in them, by acquaintance with mediaeval romances, he created for them romantic atmosphere as set off.

In the portraiture of his heroes, Scott is more often led by impulse than by reason. He often confesses his contempt for his prose, says Hutton for, as Scott himself has said, his rogues often turn out his heroes. Here, he relinquished his prudence and followed impulse. Again, he frequently subordinates his hero, in the interest of his other characters ; the hero, in such a case, facilitates the delineation of the minor characters.

Scott's pictures of female characters deserve some attention. Here he laboured under a common weakness. His natural gallantry "bowed to the high-placed fair-sex." Given a woman of high social position, the conclusion inevitably for him was that she would be perfect and all accomplished. She may have thousand weaknesses, he would not stop to analyse her ; in a word, Scott could not help his admiration of high placed ladies whatever may be their faults and weaknesses. Perhaps his passion for mediaeval splendour had instilled in him this quixotic admiration for females of high connexion. But this is only of women of the higher classes ; those of inferior classes were no abjects of his respect. He felt nothing of the chivalric sentiment for the fish-woman or for the gipsy-girl. Thus it was that he painted this last class with remarkable exactitude. The woman of rank and position was no theme for Scott's scrutinizing study ; hers was an ideal picture, endowed with all the excellences that imagination can be the mother of—a picture far from the reality, while the women of the lower classes were skilfully and cleverly delineated, in that they had no claim upon the chivalry of the poet, every shade, every line of their pictures were drawn faithfully, the pictures are true to life.

This however, holds good of his original creations. But when hints are given him from history, he proves himself a first rate craftsman. Here he is too strong for gallantry, and he paints the great lady as faithfully as he paints her maid. Scott's characterization of Elizabeth in *Kenilworth* can hardly be called an outburst of chivalry. We find before us the qualities and the frailties of the great sovereign as much as we find them in scientific histories, with this advantage on the side of Scott that history is presented with far more impressiveness. No blind admiration here leads him away. He is steadily on the firm rock of historical truth and he gives us a picture, never surpassed in realism before or after, even by Shakespeare. Scott is however, skilful in the painting of the masculine side of these women ; the finer shades of their character were beyond his reach.

The point where Scott, the novelist meets with Wordsworth is in the description of Nature. An increasing interest in the study of Nature—a mark of the poets of this age—did not fail to influence Scott, and we find in his novels, richness and beauty united with accuracy and correctness of description. The beauties of landscape, of Highland hills and lakes, of meadows and woodlands, of fountains and rivers are painted with a curious pencil, and these cannot fail to appeal forcibly to the reader. "He gives", says a critic, "as Wordsworth does, at once the form and the spirit of a place, but with this difference that the poet necessarily relies more upon suggestion." There is also a difference in the manner of description of these two poets ; Wordsworth took the whole landscape in his heart, retired from the spot, and let the impression subside for a time, after which he expressed himself, while Scott took the scenery piece by piece and described them, just as each appealed to him, and on the spot ; thus, it will be seen that Wordsworth's manner was more spontaneous than Scott's.

Thus Waverley Novels ushered a new epoch in the history of English novels. Their popularity was singular, as they deserved. Faithfulness of characterization, perfect and consistent plots, harmonious blending of history and fiction, soundness of spirit, absolute want of artificiality, love of reality, of beauty, accuracy of description, richness and variety of character, situation etc, and comprehensiveness are the qualities that give Scott

the place he occupies in the history of English novels.

"Scott's influence upon English novel-writing", says Prof. Herford, "was so enormous that it is easy to mistake for a literary revolution what was in fact merely an extension of traditional methods to a new field". "He was", continues the learned professor, "intellectually fast rooted in the eighteenth century—the last and greatest of the race of realists and humorists, who created the English novel". He loved the past, but not for that sense of mystery which inspired many of his contemporaries with admiration. The past was for him nothing extraordinary and wonderful, but only interesting as time, gone by. Thus, Scott lacked the love mystification, which was a stock-in-trade of many of his contemporaries. Of sentiment, though he had something, he had not much. In vividness and picturesqueness of description, Scott was akin to his brethren of the Romantic School. There was no writer so much in it, and so much out of it, at the same time.

(*To be continued*)

AJAX

Professor Mohini Mohan Ray— a Monograph.

(By Ambicacharan Ray M.A., B.L.)

I

Babu Mohini Mohan Ray was born on Friday, the 21st Sraban, 1272, corresponding to the 4th August, 1865, at Taki, a village of considerable importance in the 24 Perganas. He was the only son of Rajmohan Ray-Chowdhury, deceased. In 1872 he first came to Berhampore, where his father served as cashier in the office of the Executive Engineer, Nadia Rivers Division. He read for a short time in the Middle Vernacular School and went to the Khagra L.M.S School, where he unfailingly maintained his position at the head of his fellow students in all class examinations.

From his early boyhood he evinced a great love for Mathematics, which grew as he grew in years and which clung to him till he breathed his last. It was here also that in his zeal for the moral training of students on Hindu lines young Mohinimohan was principally instrumental in starting a meeting of students which they named *Jnana Deepika Sabha*, but which, shortly after, on the advent of Sri Krishna Prasanna Sen, was changed into *Sunili Sancharini Sabha*. The meetings of this association brought Mohinimohan into contact with Pandit Sasadhar Tarkachuramani, from whom, later in life, he got his religious initiation, and who was a source, if not the fountain-head, of his inspiration in life.

An account of his School career would be incomplete without the mention of the names of some fast friends of his, who were imbued with common ideals, whose life principles noted and reacted on one another and who are now adorning various walks in life. They were, Babus Nikhil Nath Ray, Satkari Adhicary, Nabakrishna Ray, Gopenda Narain Moitra and Sanjiban Ganguly. He passed the Entrance Examination in 1884 in the First Division and went to Calcutta to prosecute his college studies.

II

Before Babu Mohinimohan entered his college life he married Srimati Chandrarekha, daughter of Babu Pulin Behari Sen, since deceased, a representative member of the Sen Zemindars of Berhampore. In her personal accomplishments, she proved herself worthy of the husband, worthy of his family and worthy of the family of which she was born.

In Calcutta, Babu Mohinimohan joined the St. Xavier's College and passed the F.A. Examination in the First Division in 1886. In 1888 he got his B.A. degree with honours in Physics and Mathematics from the Presidency College and obtained a special scholarship of Rs 30 a month. He then, in 1889 went up for the M.A. Examination, in which he stood first in Physics.

In his college life he came in touch with two eminent Professors, Father La Font and Mr. W. Booth, both of whom had very high opinion of his mathematical acquirements. While reading in the Presidency College Babu Mohinimohan never missed attending lectures after college hours at the Science Association, where he became known to Babu (now Sir Doctor Justice) Asutosh Mukherji and they grew friends. He also took part regularly in the religious discourses of Pandit Sasadhar Tarkachuramani at Babu Bhudhar Chatterjee's place in College Street. These and other pursuits of like nature, usually kept him engaged till late in the evening and it was not before night-fall that he could reach Bhowanipur, where he lived.

When Babu Mohinimohan had ended his college career it was the jubilant wish of his father and other relations to make a Deputy Magistrate of him. But the attractions of the life of a college professor, with its honesty and quietness coupled with the high mission of shaping young minds and doing good to his country in his humble way, soon outweighed the visions of an ostentatious life. In 1890 he got his first appointment at the Berhampore College on a pay of Rs. 75 a month.

III

Shortly after his appointment at the Berhampore College Babu Mohini Mohan was offered the

Professorship of Physics and Chemistry at the Victoria College, Cooch Behar. He joined it in 1891 and continued as such till 1894, when an offer from his home college brought him back to Berhampore though at some sacrifice of his income. The popularity which he earned in his school and college days he carried with him to Cooch Behar and his memory there is even now fresh in the minds of those who knew him and those who heard of him. It was under his tuition there that the only M.A., in Physics from the college got his degree. It was there also that he for sometime served as tutor to Maharaj Kumar now Maharaja Raj Rajendra Narain Bhup Bahadur. While at Cooch Behar he was appointed one of the University Examiners, on the rolls of which he continued to be till the year of his death.

On his return to Berhampore as senior Professor of Physics at the college Babu Mohini Mohan found the dream of his youthful days realised. In his devout wish to work for something in the line of doing a permanent good to his country Babu Mohini Mohan instinctively formed acquaintance with Maharaja Manindra Chandra Nandy, before he was called to his present eminent position. Time only ripened this acquaintance into personal friendship and the never-failing reliance which the Maharaja placed on him made him turn to the best advantage the boundless munificence of the Maharaja in splendidly equipping the college laboratory for the requirements of the B. Sc. Standard—and all this under the fostering care of the Principal the Rev. E. M. Wheeler. Indeed the laboratory was the pride of his life and he created about him an environment in which he loved most to live, to move and to have his being. The laboratory is the monument of glory to all who shared in its making and is an object of attraction to all intelligent visitors, not to speak of the host of students whom it attracts.

Babu Mohini Mohan knew no holidays. The joy of his life was to teach and to be taught and his 'understanding grew bright gazing on many truths.' He had a fatherly love for those that sat at his feet and it is but to say the least that he won corresponding filial regardings from them. In fact no professor was better loved by his students nor was a loss more keenly felt by them. Lay people know (and so medical men also say) that undue brain-work brought on diabetes from which he suffered silently for years, till at last it begot Pthisis, which was pronounced incurable soon after it was detected and to which he succumbed at Calcutta on the 28th March, 1912

IV

So ended the life of Babu Mohini Mohan. He left behind him 4 sons, two daughters and wife and mother and certain poor relations whom he maintained.

Outside the *academe* he was not slow to mix in anything with which he thought it was his duty to associate. While in the pleasant fields of literature he was occasionally heard to read papers in the monthly meetings of the *Bangiya Sahitya Parisad* Branch at Berhampore, he did not shrink from travelling over the controversial fields of social and sectarian matters. He had for a long time a weighty voice in his community in social affairs and his age proved no bar to his pronouncing definite opinions. He greatly interested himself in the education of girls and the affairs of the local *Mahakali Pathsala* considerably shared his attention and his knowledge of Sanskrit and his studies in Hindu Dharma Shastras won for him practically a dictatorial position in its governing body.

To the end of his life Babu Mohini Mohan retained the amazingly simple habits in which he had been trained. A very pleasing quality in him was his modesty and his personal acquirements, however great they were, he never thrusted on others in his life and conversation. Learning was the vocation of his life and religiousness pervaded his soul. He had ideas, material and spiritual, of his own—the result of mature thinking and trained belief -and he was characterised by his unbending firmness in them. In fact sincerity was the soul of his thoughts and the gist of his action. Those who knew him well knew that truth, in the sense of saying (and not concealing) what he thought, was his ruling passion. He was after all too great to be conceited. Austerity was stamped on his face, but it only mirrored the pure soul within and did never militate against the milk of human kindness, much of which he had.

His life is an example to those whose race is just begun, for he ran a race of glory and in his humbleness died 'in surpassing glory crowned'.

The Influence of Heredity on the Determination of Sex of the offspring.

The great Manu has hinted that whether a married couple is to have sons only or daughters only depends on the heredity of the couple.* The modern biologists have not yet come to any definite conclusion as to what causes influence the proportion between sons and daughters of a particular marriage. Of the probable causes investigated by them, heredity is one. † As this investigation will bestow great benefits on society, it is desirable to carry it on in this country also, especially as there are greater facilities for this kind of research work in India, where people remember their grand-fathers and grand-mothers and their relations, than in Europe where few persons care for the names of grand parents, to speak nothing about their relations.

* See the rules for selecting a bride, as given by Manu.

† If the sex of the offspring is not determined by environmental condition, on what does it depend? It may depend on a number of minute and variable factors, such as the relative age of the parents and the relative ages of the sex-cells when they unite in fertilisation or it may be hereditary [Thomson's Heredity, p. 505.]

Accordingly I issued a form (as given below) to be filled up by some of my friends and acquaintances. Up till present, I have collected 24 cases. Out of them some 12 cases showed remarkable hereditary influence. Only one case was decidedly against this hypothesis (might it not be due to some mistake?). The rest did not help me much in proving or disproving it. Thus I am justified in pushing on with this work, with the following as a working hypothesis, *viz.*,— That the proportion between the members of male and female children as well as their absolute number in the case of a married couple depends partially if not mainly, on their heredity. In a subsequent paper I intend dealing with the other probable causes.

In conclusion the writer requests every reader of this journal kindly to help him in his work, that has so much practical significance, by sending to his address a form (as given below) duly filled up.

Satish Ch. Mukerjee, M. A., B. Sc.

8, Biswanath Matilal's Lane, Bowbazar, Calcutta.

FORM.

	AGE OF DEATH OR WIDOWHOOD IN CASE OF FEMALES	NUMBER OF BROTHERS INCLUDING HIM	NUMBER OF SISTERS INCLUDING HER
Grand-father (paternal) ...			
Grand-father (maternal) ...			
Grand-mother (paternal) ...			
Grand-mother (maternal) ...			
Father			
Mother			
Himself or Herself ...			

I am certain about the truth of the above statement. Doubtful figures have not been inserted and the corresponding places in the form have been left vacant.

Signature.....

Address.....

REVEIWS

LIFE AND WORK OF PESTALOZZI, By J. A. GREEN, M. A. Professor of Education in the University of Sheffield. (London : University Tutorial Press). 4s. 6d.

The Tutorial Press has added to the list of their publications in the science of Education and Pedagogy, this important contribution by one of the surest authorities on the subject. The life of the great Swsis expert is inspiring ; and those, interested in the subject of education, will find enough illumination in this instructive biography. We cannot too much recommend this book to the attention of all concerned.

SCIENCE NOTES

and other interesting matters

Louis Paul Caillettet

THE tudy of the behaviour of substances at very low temperatures has been fruitful in discoveries which have advanced our knowledge of the nature of matter and energy, and at the same time have placed in the hands of engineers and manufacturers some of their most valued weapons. One of the pioneers in this study, Louis Paul Cailletet died on January 5 at Paris, after a long life spent in scientific work. The classical research by which he liquefied oxygen in 1877 is quoted in every textbook. Quite appropriately the liquefaction of hydrogen was first incontestably achieved by one of his pupils, Wroblewsky. For many years Cailletet was president of the Aero Club of France.—*Journal of Education.*

New Instrument for Analysing Gases

By the use of a new German instrument which takes the index of refraction, of mixed gases, Haber and Lowe are able to find the amount of carbon dioxide and methane contained in mine gases. The method is also useful in many other cases, such as for benzol vapours in the gas distilled by gas or coke plants, also sulphurous anhydride in the gases coming from pyrites roasting, as well as percentages of ozone in the air. They are also able to check the purity of hydrogen made by the electrolytic process observe the gases in human breath, and carry out other very useful tests. Recently O. Mohr applied the method of analysing the products of combustion of furnaces so as to have a useful check upon the way the fuel is being burned.

Inventions of Boys

Marconi was a mere lad when he made his epoch-making discovery of wireless telegraphy. He was, indeed, little more than a boy when he actually brought the almost perfected instrument to the notice of the world.

Another notable invention by a boy is the hydraulic steam crane, which stands to the credit of Lord Armstrong, the founder of the wonderful engineering works and great ship yards at Newcastle (Eng).

A 16-year-old boy answering to the rather common name of John Brown was the inventor of the sliding railway buffer, which has made such a difference to the wear and tear of rolling stock, and for that matter, to the nervous systems of millions of passengers.

Electric Current Instead of Food

More has been heard of Professor Bergonie's "diathermie," the general principles of which were expounded at a meeting of the French Society for the Advancement of Science. The Professor explained that the application of currents of low tension and high frequency could in part take the place of food providing the body with a great quantity of heat, thus dispensing with the necessity of taxing the human machine with the labor of digesting and reducing the combustion articles of ailment. Professor Bergonie has since put his theories to the test. He had a patient diminutive of stature and of slight weight, who before treatment consumed a good deal of meat, but remained feeble and unable either to work or walk for any reasonable length of time. After the series of electrical applications lasting forty minutes, and corresponding to 1700 calories absorbed at each sitting, the patient increased considerably in weight, worked and walked without fatigue, and needed much less food. Professor Bergonie predicts that the troubles caused by defective powers of nutrition and assimilation will disappear by means of his process of "diathermie."

The Health of Educated Indians

PROFESSOR P. C. Ray has contributed to a Bengali Magazine an interesting article dealing with the premature death of educated Indians, which reveals a sad and alarming state of things for which a remedy should be sought. 50 per cent of the student population of Calcutta, it appears, are suffering from dyspepsia while another 25 p.c are victims to Malaria. So much for the students. Things are no better with educated Indians who are expected to give the community the benefit of their varied experience. Some of our foremost men have been cut away in the prime of their life, when their intellects showed no sign of decay.

The cause is to be sought, according to Prof. Ray, in excessive mental work and entire absence of physical exercises and recreations which form such prominent features in the lives of Englishmen. Lord Kelvin carried on his scientific researches till he was 78 while Sir William Crooks is active and alert at 80. On the other hand educated Indians are threatened with the danger of early death even before they attain the age of 50. The climate and the diet of the people may have to account for this to some extent and in any case a remedy for this incipient danger should be discovered by the people with the aid of scientific experts of the West.

$ 25,000,000 for Charity

Mr. Carnegie, it is reported, has decided to start his new year benefactions by setting aside $25,000,000 (£5,000,000) for small charities.

The Steel King has probably given more money away than any other men. He is credited with possessing $400,000, which, he has said, he intended to spend before he dies, leaving only enough to keep his daughter comfortably. Apropos Mr. Carnegie has coined a famous phrase 'The man who dies rich dies disgraced.' Though it would be impossible to reckon up all his gifts, it has been estimated that he has given $175,000,000 away—mostly, of course, on the erection of libraries. Among more amous donations are :—

Hague Peace Palace...	$10,000,000
Carnegie Institute, Washington	10,000,000
Pension Fund ...	4,000,000
Carnegie Institute, Pittsburg	10,000,000
Scottish Universities...	10,000,000
Teachers' Pensions ...	10,000,000
Hero Fund ...	5,000,000
Libraries... ...	60,000,000

CUTTINGS

Lord Carmichael's Speech at Dacca College.

The following is his Excellency's speech at the Dacca College Speech-day on February 11 :—

I thank you for having asked my wife and me to come here to-day. I am sure it has been a great pleasure to her to do so, as it certainly have been to me. One of the pleasantest things connected with my office as Governor is, that I am brought into contact with so many schools and colleges. Not very long ago, I had the pleasure of presiding at a meeting of students, past and present, of the Presidency College—the leading college in Calcutta. I am glad that I have now been able to preside at ameeting of this—the leading college of Dacca. I admired this fine building when I saw it last summer, but it is much more interesting to see it now with you students filling it. I dare say many of you are thinking—as I am thinking how even more interesting this hall will seem to my successor in office—possibly even to myself—if and when the schemes to which Mr. Archbold has referred are carried out, and the Convocation of an university in which yours will form the leading college is held within these walls. I was glad to hear from Mr. Archbold of the increase in your number—for that is a proof of the popularity of your college, and of the value of the education which it gives, and I was glad to hear Mr. Archbold utter a warning note as to that increase ; for there is very real danger in an increase in numbers unless at the same time steps are taken to secure that there is no decrease in that drawing out of the individual mind which ought to be the object of all teaching. I congratulate Mr. Archbold and his staff on the success which their students have met with in the university examinations, and I specially congratulate Mr. Jatindra Mohan Dutt on the honour which he has brought to the college.

CAREERS FOR YOUNG MEN.

Many of you I suppose are now about to leave the college and enter on your life's work. I wish you every success. I wonder what careers you intend to follow. I do hope, you have thought well about this and made your plans. I cannot help being struck here in India by the fact which I find very hard to understand, that so many young men seem to look to Government service as the profession which they most wish to follow. I suppose it has its attractions or perhaps it is that other careers are more difficult to enter upon, but the number of posts in Government Service is very small and must always be small as compared with the number of students who leave our colleges every year, and it seems to me most desirable that students should realise this more fully than they do. I hear almost every day of young men whose fathers have given them good education, who have had a creditable career at the university, but who have gone to their homes and are waiting there in hopes of finding Government employment and who are suffering bitter disappointment, because it is not possible to get that employment. I do hope that will not be the case with any of you, but that you have, even though you want Government posts, thought of some second string to your bow.

I am glad to see that in schemes as foreshadowed by the committee for a new Dacca University this matter has not been forgotten. I heard what Mr. Archbold said about your interest in games. I think that you students in Dacca are very fortu;

nate as compared with students in some other places. You are not cooped up in a large city, you are not condemned to tramp streets if you wish to go for a walk; above all your games are not confined to the limitations of Marcus Square, as those of your fellow students in Calcutta unfortunately too often are. Here you have plenty of room, and you have every opportunity. You have professors and teachers willing to join in your games. I hope, you will make full use of your opportunities of fostering a spirit of comradeship. The need for recreation and athletics is recognised in all centres of learning. Recreation is necessary to form a healthy body without which the mind must be seriously handicapped.

One other thing I would like to take this opportunity of saying. Last summer, Raja Sreenath Roy kindly suggested that the old Dacca College boys might entertain me. It was a most kind suggestion and I was sorry not to be able to avail myself of it. I hear now that there is a proposal to form an association of the students—not only old boys but present students as well—of the college. Something of the nature of the association they have formed at the Presidency College in Calcutta—to uphold the traditions and keep up the prestige of the college. Perhaps some day that association if it is formed, may honour me by asking me to attend one of its meetings. If it does, I shall be delighted to go if at all possible. I need only now once more to thank you for having asked us to come here. I once more congratulate you on what you have done, and once more wish you every success in your work and in your lives.

Lord Haldane's Address on the Civic University

After thanking the citizens of Bristol for the high distinction conferred upon him, Lord Haldane traced the growth of the movement which led to the foundation of our younger universities, and continued :—

'There was a time when men of business, accustomed to see closely to profit and less, used to think that the work of a university was worth effort and expenditure only in so far as it produced aptitude for industrial and commercial production. Traces of this view are still apparent in the foundation deeds of some of the older university colleges of our municipalities. But this idea is now discredited and the part played by science and by general learning in the production alike of the captain of industry and of the extension of invention is far greater than was the case even a few years ago. Applied science is in its best form only possible on a wide foundation of general science. And the fruitful scientific spirit is developed to-day on a basis of high intellectual training, the training which only the atmosphere of the fully developed university can completely provide. What is true of science in the narrower sense is also true of learning generally. It is only by the possession of a trained and developed mind that the fullest capacity can as a general rule, be obtained. There are, of course, exceptional individuals with rare natural gifts which make up for deficiencies. But such gifts are indeed rare. We are coming more and more to recognize that the best specialist can be produced only after a long training in general earning. The grasp of principle which makes detail easy can only come when innate capacity has been evoked and moulded by high training. Our engineers, our lawyers, our doctors, our administrators, our inventors, cannot without it keep in front in the race, or hold their own amid the rivalry of talent, unless their minds have been so widely trained, that the new problems with which the ever-increasing complications and specializations of modern conditions confront them, present nothing more formidable than new applications of first principles, which have been thoroughly assimilated. Without having reached this level they cannot maintain their feet. The competition is not merely with their fellow-countrymen, it is with the trained minds of their countries. These other countries are some of them advancing at least as rapidly as we are.

The University Level.

'An enlightened policy in education is the order of the day over most of the civilized world, and if we are to hold our own, even in the making of money, we dare not fall behind or lag in the endeavour to increase our efforts. I see no sign that we Britons are diminishing one whit in our really great capacity. In many respects, notably in certain of our public institutions, we are advancing so rapidly that we continue to lead the way and our production of wealth is not falling off. Moreover I do not believe that we are really losing what is equally necessary that spirit of respect to the laws, which we have made for ourselves that has been one of our chief glories. But we have more than ever before to see to it, that we keep at last abreast in science, and science means far more now than technical training or the mere application of special knowledge to industry It rests on a foundation of general culture, which is vital to the maintenance of its standards, and it can develop only if the population has the fullest chance of an intellectual and moral training, which goes deeper than mere science strictly so-called. It is the power of the highly trained mind that is required, and the full development of this trained

mind can only be given by the highly organised universities.

'This brings me to my next point. It is said that it is only the comparatively few that can attain to this level. That is quite true. And it is neither requisite nor possible that every one should be trained up to it. If we had all the universities in the world concentrated in England we should find that it was only a limited percentage of the population that would befitted by natural aptitude to to take full advantage of them. What is really essential is that every one should have a chance and that there should be the nearest possible approach to equality of educational opportunity. Without this the sense of injustice will never be eliminated and we shall in addition fail to secure for our national endeavours the help of our best brains.

The Higher Civil Service.

'It is felt, and felt rightly, that the Universities of Oxford and Cambridge have had an undue advantage in the higher civil service. They continue to fill a very large proportion of the vacancies. The facts that this is because Oxford and Cambridge until now have proved to be the best training places for the candidates. Education quite as good for the purpose might be given elsewhere. But such education, to be sufficient, must be of a high order. After a good deal of observation both while I was at the bar and while I was in charge of an administrative department I have come to the conclusion that as a general rule the most stimulating and useful preparation for the general work of the higher civil service is a literary training, and that of this a classical education is for most men the best form, though not exclusively so. No doubt men vary, and science or modern literature may develop the mind, in the case of those who have aptitude for them, better than Latin or Greek literature. But, as Goethe said long ago, the object of education ought to be rather to form tastes than simply to communicate knowledge. The pedant is not of much use in the conduct of public affairs. For the formation of tastes and of the intellectual habits and aptitudes, which the love of learning produces, the atmosphere of highly organized university life is tremendous power, and we cannot do without it. And therefore while I am not without sympathy with the complaint of democracy that the entrance to the higher positions in the civil service is by far too much the monopoly of a class, I reply that a highly educated clerk essential for a particular kind of work which the state needs.

A New Democratic Campaign.

The remedy must not be to displace the class which furnishes the supply. Democracy is apt in its earlier stages to be unduly jealous, and to try to drag things down to a level which, because it is the general level, is in a danger of being too low to provide the highest talent. The remedy for what is real grievance appears to me to be that democracy should add a new plank to its platform, and insist on equality of opportunity in education as something that should be within the reach of every youth and maiden. That more than a comparatively small minority will prove capable of taking advantage of the highest education is unlikely. We are not all born with the same capacity. But that many will seize on a new opportunity, who are at present shut out, is to my mind certain. And if democracy will abandon the suggestion, that the highest work can be done without the highest educational preparation for it, I shall be the most wholehearted supporter of the inauguration of a new democratic campaign. There are those who possess the inborn initiative and capacity which can do without the ordinary educational avenues. They have existed at all times and they exist to-day They must be taken into account and provision made for them by special promotion. But these are nature's aristocrats, and the number of true aristocrats is always very small. We have to legislate for the ordinary man and woman, and we cannot do more than make provision for that equality of opportunity in the higher education of which I have spoken.

The Class Barrier.

'Elementary education is now the right of all, and since the passing of the Education Act of 1902, an Act the immense advantages of which have always appeared to me to outweigh certain awkward blemishes which have still to be got rid of, the clever boy or girl can generally, by means of a scholarship or a free place, get to the secondary school. But the chances for the poor scholar to get from the secondary school to the university, although they exist, are still far too few. The Labour leaders are quite right, when they complain that the prizes of the state are in reality far too much reserved for the upper classes. Where they are wrong, I think, is in the remedy they propose. The State will suffer badly, if the level of its civil servants is lowered, and it will be lowered if the qualifications for all position are lowered to the educational equipment possessed by a youth, who has ceased studies at 18. The true remedy is to break down the class barrier by making provision for enabling the youth of 18 to go on if he is fit to do so and to qualify himself more highly. Now here is where the civic university has a great part to play. It is idle to say, as is sometimes said, that Oxford and Cambridge include the democracy. Theoretically they do, but not one child of the people out of a thousand has a real chance of becoming an undergraduate there. More accessible universities are required,

and these new universities. I am careful to add, will only successfully compete with Oxford and Cambridge in serving the requirements of the State if they keep their level very high.

Here, then, is a new object of ambition for you, the citizens of Bristol. You have it in your power now, if you so choose, to make it possible for the son or daughter of every poor man in this city, be he high, or be he low to attain to this splendid advantage in life. Only few can be chosen ; that results from the fact that the order of nature does not permit us to be born equal. But the many may and ought to be called, even if the few are chosen. Let us turn to the practical application to the affairs of your city of this great gospel of educational opportunity. Those who believe in democracy have not yet awakened to its significance. When they do they may come to think that here lies the most direct path to the attainment of their end.

THE OLD UNIVERSITIES.

The inhabitants of this great city are all of them directly interested in it. Therefore I appeal to all of you—to workmen and employers, to the man who can just manage to educate his children and to the wealthiest alike—to concern yourselves in a great civic cause. Do not let yourselves be influenced by the criticism that is sometime made even to-day by those whose ideas about university influence are entirely derived from the contemplation of the older universities. No one is more keenly conscious than I am that there has grown up around Oxford and Cambridge an atmosphere, which it is impossible to reproduce elsewhere. It has been the growth of the tradition of centuries. It has developed the finest qualities in scholarship. But as a detached observer, I must add that this atmosphere and the habits which it has developed in us have hindered as well as helped.

'The awakening has come to the old universities late. They are now doing very fine work, but they ought to have been able to develop it much sooner. Some stimulus has been wanting. Had their students lived under a national system where there were many universities, and where the scholar was free to move from one to another to seek the the professor of his choice, instead of being tied up in his academic domicile of origin, the teachers would have been stimulated and things would probably have moved far more rapidly under the development of the rivalry of talent. But the dominant atmosphere was that, not of the laity, as in Germany, but of the Church, and the result was somnolence. There was lacking the alertness which comes from the supervision of the keen mind and practical instinct of the nation's great men of business. The latter may not, know much of literature or science or philosophy, though among them there will always be those who do know. But they recognize quality when they see it, and they are jealous lest the institutions for which they are responsible should be outdistanced in foreign countries. If the new English universities can keep their level high, they may be able to develop a certain advantage over the older English universities.'

THE FUTURE.

'I can see no limit to what may be the development of the civic university within the next hundred years. I look to its becoming the dominant and shaping power in our system of national education. We have got into all sorts of difficulties religions and otherwise, from beginning too low down. Now, if the community would be in earnest in setting educational ideals at the top and in letting its educational system be permeated from the upper stratum downwards, I should have much hope that the controversy about the lower schools would disappear in the pursuit of larger end. But this implies that the universities should take a large part in shaping the spirit and endeavour of the secondary and elementary schools; and a condition of this, that the entire organization of of education should be shaped by Parliament into a comprehensive and connected system. In 1908, by passing the Scotch Education Act of that year, Parliament took up a step in this direction for Scotland. But in England the work has yet to be done, and it may well be, that the new university spirit in our great cities will compel its commencement.

Specialization in each city university there will be and ought to be *non ominia possums omdes*. In one place the distinctive strength will be in chemistry—general and applied—for exist without each other they cannot. In another, as in Sheffield it will be the metallurgy of iron and steel and it is not unimportant in this connection that Sheffield is the chief centre for the manufacture of the national guns and steel plates, an industry in which we dare not dispense with high science. In another place, as in the case of the Imperial College in London, we should have the great training place in the metallurgy of the precious metals for the students of a people which leads the world in their production. Some universities will be strong in engineering, civil and mechanical, or, it may be marine. But the one thing requisite is, that the broad foundations of the highest general knowledge should be there in each university, and that all specialization should rest on these foundations. You cannot, without danger of partial starvation separate science from literature and philosophy. Each grows best in the presence of the others.

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AND PROGRESS OF INDIA

CALCUTTA, TUESDAY, MARCH 18, 1913

Education of Chiefs

HIS EXCELLENCY THE VICEROY attended the opening of the Chiefs' Education Conference at Delhi on Monday the 3rd March 1913 and delivered an interesting speech in which he impressed the ruling Chiefs that their future is bound up with their educational progress, and that in these strenuous days when brain-power has the mastery of the situation the simple fact of their high birth alone would not carry them far. The key-note of the whole utterance is the following, which we quote from His Excellency's Speech:—

> In the busy and enterprising world of the twentieth century, where the human intellect is making such prodigious strides and where discoveries in every quarter are pressing upon us in rapid and bewildering succession, there can be no room for a policy of *laissez faire*. The signs of the times are plain for those who are willing to read. With the spread of education throughout the country the problems of administration become every day of increasing magnitude and complexity and demand a correspondingly higher standard of knowledge and skill in those to whose hands the onerous duty of government is entrusted. Your Highnesses, if the difficulties which now confront you in the administration of your states be considerable, rest assured that a far more delicate and troublesome task lies before your successors. On the measures which are taken now to train them for their future careers, will their success or failure in that task depend.

Lord Hardinge did not desire to fetter in any way the deliberations and conclusions of the conference, but indicated what in his opinion should be the distinctive features of the education of the sons of chiefs. These comprise, as his lordship has said, 'firstly, a general development of the faculties; secondly physical culture upon the best lines; thirdly, 'a study of the principles and practice of administration, lastly, and in my judgement, the most important feature, a religious upbringing calculated to produce a character inspired by high ideals and by an unswerving purpose towards the achievement of what is right.'

Sir Henry McMahon, the foreign secretary, presided over the conference and among the members are the joint secretary to the department of education (Mr. H. Sharp), the Maharajas of Gwalior, Bikanir, Alwar and Benares, the Begum of Bhopal, the political agent in Baghelkhand, Sir Partab Singh, Khan Bahadur Zulfikar Ali Khan, the Thakor Saheb of Gondal, Sir Elliot Colvin, the hon. Mr. O'Dwyer, Col. Pinhey, Col. Impey, Mr. de la Fosse and the principals of the various chiefs' colleges.

* * *

Lord Sydenham's Convocation Address

THE important features of the elaborate address delivered by His Excellency the Governor of Bombay at the Convocation of the Bombay University are (1) the long historical survey of the establishment of British supremacy in India and (2) the homage thus incidentally paid to a knowledge of history both Indian and English. But we are sorrry to note that he expressed satisfaction that English History had been removed from the compulsory subjects for the B. A. Examination of the Bombay University; it means that the Bombay B. A. 's would not be equipped with that initial knowledge and impetus for further increase of kowledge of British and general European History. Lord Sydenham blessed the Indian Universities Act, but the principle of the infallibility of Govenment by which he justified the act of Lord Curzon is one which we are afraid we cannot agree to.

We must however confess that Lord Sydenham's Government has really furthered the cause of Science Teaching and great praise is due to him for the advance of higher education achieved by the Government taking over the Gujarat College and drawing large donations for its expansion and development. We would also commend His Excellency's advice to the Senate to go in for reform and take the advice with good grace and heart.

* * *

Education Grants

THE following figures from the statements of the Education Member in the Supreme Council on behalf of the Government of India will be interesting :—

(*a*) Non-recurring grant of Rs. 69 lakhs to be given to local Governments and the whole is allotted to hostel construction, but from this the Calcutta University will get an extra 2 lakhs. The distribution is therefore—Hostels, Rs. 67 lakhs, Calcutta University Rs. 2 lakhs.

(*b*) Non-recurring grant of Rs. 250 lakhs from the surplus of the ordinary revenue. This distributed to Universities and local Governments for building equipment and other capital charges as follows :—

(1) Universities, Rs. 46 lakhs to be distributed as follows :—University of Calcutta, Rs. 6 lakhs ; University of Bombay, Rs. 2 lakhs ; University of Madras, Rs. 3 lakhs ; Punjab University, Rs. 2 lakhs ; University of Allahabad, Rs. 2 lakhs ; Dacca University, Rs. 15 lakhs ; Patna University, Rs. 8 lakhs ; Rangoon University, Rs. 8 lakhs. It has already been decided in principle to establish universities at Dacca, Patna and Rangoon, and it is necessary to provide for their foundation. The grants for this purpose, however, are contingent upon the approval by the Government of India or the Secretary of State, of schemes for their constitution.

(2) Colleges and secondary schools, including training institution receive Rs. 35 lakhs.

(3) The Government of Madras are understood to contemplate considerable expenditure upon their Engineering College. It will be open to that Government to spend a portion of the sum on this object.

(4) The remainder of the total grant is intended for arts and secondary schools.

(5) The Government of India desires to urge the claims of training institutions. Educational hygiene, gymnasia, play grounds, swimming baths, gardens, reading rooms, common rooms, etc. Rs. 15 lakhs. This grant is intended to make a start in placing education upon a broader basis along the lines indicated in the resolution No. 301-ed of the 21st February last.

(6) Manual instruction Rs. 7 lakhs. This is designed to encourage the much needed introduction of manual training into schools. Two local Governments have already framed schemes of this kind.

(7) Girls' School, Technical and Special Schools, Rs. 25 lakhs. These objects have been grouped together under a single head in order that local Governments may deal freely with their grants according to the readiness of local programmes.

(8) European education, Rs. 28 lakhs. There are large demands for the improvement of buildings and equipment in schools for the domiciled community in all provinces except Bihar and Orissa where the needs for such education are not extensive and are reported to have been satisfied by previous grants.

The Government of India are about to address local Governments on the question of encouraging Mahomedan education generally, but they do not desire to delay any existing schemes and they have no doubt that local Governments, in distributing grants will make provision for special Mahomedan institutions.

(*c*) Of the recurring grant out of the revenue of the ensuing year (1) Rs. 6 lakhs are held in reserve for the present to meet undeclared require-

ments, such as proposals for the developments of Oriental studies and Mahomedan education. (2) Universities Rs. 6 lakhs. Recurring grants have been made during the current year to the existing universities for the encouragement of research work and higher teaching. The result of that experiment is awaited. Meanwhile the Government of India desire to make adequate provision for the creation of new universities and a new type of teaching and residential university, a reform to which they attach great importance. They are accordingly allotting Rs. 5 lakhs for the proposed teaching and residential university at Dacca (for which Rs. 45,000 has already been given) and for universities at Patna and Rangoon, sums of Rs. 1 lakh and Rs. 1,40,000 respectively. This expenditure will be contingent upon sanction. (3) Primary education, Rs. 20 lakhs; (4) girls' education, Rs. 5 lakhs, (5) colleges and training institutions Rs. 2 lakhs, (6) secondary education Rs. 9 lakhs; (7) technical and special education, Rs. 1,50,000; (8 manual training Rs 1 lakh: (9) European education, Rs. 3 lakhs.

Durbar grant to Bombay

THE Bombay Government has issued a press note detailing distribution of allotments of six lakhs and fifty thousand made to Bombay Presidency from the Durbar grant of fifty lakhs for popular education. Of the four lakhs thirty-six thousand allotted for elementary education, a lakh and a half will be spent on additional grants to Municipalities for their Primary Schools. and a similar amount is distributed to training colleges for increasing the output of trained teachers. Twenty-five thousand goes towards the pay of Vernacular masters according to the Code. One lakh and eleven thousand are allotted for other objects connected with primary education. Rupees seventy-five thousand has been assigned for the education of girls. For Hostels, Rs. 48,000 has been granted, of which a large grant goes to Madiad Hostel for Guzrat Taluqdar's Shikarpur High School. Technical education gets Rs. 51,000, of which the Poona Engineering College receives Rs. 8,500 for equipment and books. Rupees forty thousand has been allotted as an additional grant to aided schools for Europeans and Anglo-Indians.

Bombay Educational Conference

SEVERAL educational problems were discussed at the Educational Conference held the other day at the Framji Cawasji Institute, Bombay. The chair was taken by Mr. Rieu, Education Secretary to Government.

Mr. Alexander Ferreira, in the course of his paper on 'Specialization of studies on a physiological basis especially of sex,' said that all questions as to scope or method in educational matters depended ultimately on the object aimed at by the particular system under consideration.

In the course of an admirable paper on the physiological basis of the school curriculum Mrs. Anderson said :—An American writer has said, 'Give me health and a day and I will make the pomp of Emperors ridiculous'. 'Where everything is growing' to quote a well-known educator, 'one farmer is worth a thousand reformers.' Good health is not the result of chance, but of obedience to physiological law.

There is a threefold contention : (1) That the prime requisite in the education of a child must be health ; (2) that good health is subject to command ; (3) that the school must be measured by the extent to which it contributes directly to this realisation.

Sir Bhalchandra Krishna, in the course of the discussion on the paper, said that Mrs. Anderson had done a public service in pointing out physical defects in school-going children. He agreed with her that a systematic medical examination was essential and said that the subject should be taken up and examined by a committee who might report the results to Government with a view to bring about a medical inspection of the children.

The chairman, in summing up the papers, said, a separate syllabus might not be deemed necessary for boys and girls in primary schools, but he was not prepared to say that he was convinced that the syllabus of studies for boys and girls in the colleges should be the same. A special college for women was a very desirable thing and it would be well if the university were asked to consider how far the demand for a college for women could be met. As to Mrs. Anderson's suggestion for medical examination he thought that it might not be possible in the small mofussil towns but he was sure, it could be profitably introduced in Bombay, Poona, Ahmedabad and other large towns.

Sir Chinubhai Madhowlal, Bart

As a frontispiece to this issue we are presenting our readers with a portrait of the first Hindu Baronet Sirdar Sir Chinubhai Madhowlal of Ahmedabad who has done much towards the advancement of higher education. Among his grants to the cause of education we may mention the following : Rs. 4 lakhs for the Science College Ahmedabad, Rs. 2 lakhs for the Gujarat College Ahmedabad, Rs. 1½ lakhs for the Sir George Clarke Library and King George V Hall.

* * *

Education of Factory children

THE report of the Director of Public Instruction submitted to the Madras Government on the subject of the education of factory children, is instructive. It

says that out of 6,118 children working in different factories only 1,204 are receiving education, and that '3,059 children are employed in factories 'in places where provision for their education already 'exists or measures to that effect seem practicable.' There are in all three schools, out of which one has been opened by the missionaries, who are doing much useful work, in this respect, in India. The Director has proposed the starting of schools at five different places in that presidency and has estimated the cost of their upkeep at about Rs. 3,504. 'The recurring cost of these schools may be met 'by giving subsidies to the municipalities concerned.' The schools will be managed by the local bodies first, and afterwards, if found feasible, will be entrusted to the charge of the millowners, but they will continue to receive a grant-in-aid from the Government. This is a step to which we may call the attention of Government of other provinces.

A widow's munificence

SRIMATI JANKI BAI widow of the late Ram Chander Row of the Subadar family of Bithoor, has executed a deed of gift by which she had transferred village property of the value of more than one lakh of rupees for establishing a first class girls' school in Cawnpore. A strong committee of trustees has been appointed by the donor to carry out her object. This is the biggest educational endowment recently made in Cawnpore.

* * *

Maharaja of Patiala's grant

THE MAHARAJA OF PATIALA on the birth of the Tikka Sahib has made a donation, amounting nearly to Rs. 40,000 to the various institutions in the Panjab.

Mahomedan College at Poona

IT is understood that a scheme for a Mahomedan College at Poona on the lines of the Aligarh College is being matured and that a Mahomedan gentleman has expressed his readiness to make a donation of ten lakhs of rupees for founding the College. If the scheme is matured it is proposed to extend the Currimbhai Ebrahim Mahomedan school, the foundation-stone of which was laid by the Governor in November last.

Mr. Ratan Tata and Archæology

THE GOVERNMENT OF INDIA have issued a communique setting forth the conditions of agreement between Mr. Ratan Tata and the Government of India regarding the Patna Excavations. In the beginning of the year 1912, Mr. Ratan Tata of Bombay offered to carry out at his own expense archæological excavations on sites known to the Archæological Department. The Government of India welcomed this public spirited action and evidence of a growing interest in the archæology of India and expressed their cordial appreciation of Mr. Tata's generous offer and after further negotiation and consulation with the Government of Bihar and Orissa, they selected the site of Pataliputra near Patna where King Asoka erected his palace. Quite recently the preliminary excavations have led to the discovery of a pillared hall and there is reason to hope for further extensive and valuable discoveries. The work will be conducted under the supervision of the Archæological Department and Mr. Tata will meet the actual cost of excavation which will probably extend over several years.

The following are the principal conditions of the agreement between the Government of India and Mr. Tata —

(1) That the collection of finds will be maintained in fact in Bombay, or if Mr. Tata agrees in Patna; (2) That Mr. Tata will consider specially the case of any particular object which local reasons may render it inconvenient or inexpedient to remove; (3) that reasonable access will be given for the scientific examination of the collection by students; (4) that the collection will eventually be bequeathed by him intact to the Government of for the use and benefit of the public and Mr. Tata's name connected with it: (5) that any duplicate which can be spared from the main collection without any detriment to its value or interest will be made over to Mr. Tata to dispose of as he thinks fit. The second of such duplicates will rest with the Director-General of Archaeology in India.

The *Times of India* gives some interesting details regarding the Scheme. The paper says:

"The site of excavation which Mr, Tata is financing is Kumrahar where Dr. Spooner Benn is at work since the beginning of the year. Results of extraordinary interest are already promised. Fragments previously found there pointed to the site having been marked by one of the great Asoka Columns. Soon after digging was started in January pieces of polished stone columns were found in significant numbers which ultimately led to the location of thirty monolithic columns forming part of a pillared hall. The technique of the columns has enabled Dr. Spooner Benn to assign them with certainty to the age of Emperor Asoka (250 B. C.) and there is every reason to believe that they formed part of that Emperor's famous palace at Pataliputra.

Inductive Method in the teaching of history—a graduated course.

According to Professor B. K. Sarkar's *Educational Creed* the Inductive Method of proceeding from the known to the unknown, concrete to the abstract, facts and phenomena to general principles, is to be the tutorial method in all branches of learning. The application of his method in the teaching of History would be to proceed from the present to the past, through the national to the universal. So the knowledge of the familiar contemporary national history is to be used as the basis of all historical studies.

An elaborate scheme embodying all his ideas on the methods of teaching has been recently published under the title of *Steps to a University*: *A course of modern Intellectual Culture (adapted to the requirements of Bengal)*. As the lines of instruction described herein are fundamentally different from those obtaining at present in the Indian educational world, we quote from it the passages relating to the teaching of History and recommend the whole pamphlet to our readers for perusal.

In the 2nd and 3rd years of the Elementary stage *i.e.*, when the child is between 8 and 10 years the subject of study is "Indian history in tales".

The object is to ground the student well in the people's traditions, train his sentiments, and impart ideals of character. The student is to be taught through stories and anecdotes the whole march of Indian History from the earliest times. The stories are to familiarise him with the principal men, institutions and movements that have made India through the ages. The *whole* of Indian history is to be thus finished in two years. (*Three periods a week*).

Books of Reference: भारतवर्षेर इतिहास—By Prof. Khagendranath Mitra. समकालीन राजस्थान—By Bipin Bihari Nandi. सिख इतिहास—By Sarat Ch. Ray. आर्य कीर्त्ति—By Rajani Kanta Gupta. गौड़लेखमाला—By Akshay K. Maitra. *Indian Shipping*—By Radha Kumud Mookerji. *Maratha History*—By M. G. Ranade.

In the fourth year of the Elementary stage (pupil's age 11 years) the subject is—"Men, Institutions and Movements in modern Bengal". The course is meant to give the student an idea of (1) the prominent persons that are influencing life and society in Bengal in modern times, (2) the social, economic, religious, educational and political organisations that are the centres of thought and activity in Bengal in modern times, and (3) the prominent enterprises, schemes, undertakings launched by Government and private citizens in Bengal in modern times. (*Two periods a week.*)

Points to be noted:—

Schools, Universities, Technical Institutes, Professors, Inspectors, Courts, Laws, Municipalities, Thanas, Viceroy, Governor, Native States, Legislative Councils, Congress, Conference, Museums, Art-Galleries, Exhibitions, Banks, Firms, Insurance Companies, Loans, Co-operative Credit Societies, Zemindaries, Takkavi Grants, Strikes, Unions, Mills, Joint Stock Companies, Mythology, Rites, Ceremonies, Pilgrimages, Churches, Temples, Preachers, Missionaries, Movement for the Development of Industries, Propagation of Hindu Literature, Mass Education, Social Reform, Promotion of Vernacular Literature, Education of Indian Scholars in foreign countries, Sea Voyage, Depressed classes Mission, Hindu and Moslem Universities, National Education.

The student is thus to be in living touch with the leading currents of national life. At this stage, lessons in History are not so much training in History proper as in the basis or underlying forces of History.

Books of Reference:—*Peoples and Problems of India*—by Sir T. W. Holderness,. *Imperial Gazetteer of India, Descriptive*—Hunter. *Indian Nation-Builders* and *Bengal Celebrities*. Appendix to *Ramtanu Lahiri* by Lethbridge. *Bengal under Lieutenant Governors* by Buckland. भारत-गौरव ग्रन्थावली. *Bengal Gazetteer*. इतिहास शिक्षा प्रणाली by Surendranath Ghosh.

In the next year, likewise, lessons in History are to constitute a training in the basis or underlying forces of history. The subject of instruction is "Men, Institutions and Movements in Modern India (outside Bengal) including native states." There should be 'constant reference to, and comparison with Bengal conditions that have been already studied.' (Two periods a week).

Books of Reference:—*The Citizen of India* (Warner). *Indian Year Book and Annual*—Published from Nayadupeta (Madras). *Indian Nation-Builders*. *Imperial Gazetteer of India*, I, III. *Peoples and Problems of India*. *Englands Work in India* (Ghosh). Aitchison—*Treatises*. *Gazetteers* of principal Native States.

Points to be noted—as in the previous year with Bengal.

Thus the pupils who have to leave school at the final year of the elementary stage (*i. e.*, when they are between 11 and 12 years of age) will be able (1) "to draw inspiration from the makers of Indian civilisation" and (2) "to follow intelligently the movements in India."

Next comes the Preparatory stage which is distributed over three years. During the first year (pupil's age 12-13 years) the course of instruction is: "The epoch of Bengali Greatness (9th, 10th, 11th centuries)." The last phase of Hindu Imperialism in India—The hegemony of Bengal. The Empire of the Pals—Intercourse with Nepal, Tibet, China, Java, Siam, Cambodia (*Two periods a week.*)

Books of Reference:—
गौड़राजमाला Rama Prasad Chanda.
आर्य्येर मंसीरा Hari Das Palit.
बंगभाषा ओ साहित्य Dines Chandra Sen.
गौड़ेर इतिहास Rajani Kanta Chakravarti.
बांगालार सामाजिक इतिहास Durga Ch. Sanyal.
Indian Shipping—Radhakumud Mookerji.
H. P. Sastri's Introduction to Nagendra N. Basu's *Modern Buddhism*.

During the second year of this stage the subject of study is "The Modern World from The Capture of Constantinople by the Turks in 1453 to the fall of Port Arthur in 1905. The stages in the expansion of England—History of India as a British Province. The Awakening of the East." (Two periods a week.)

The Historical Course for the School Final Examination leading to University (Pupil's age 14-15 years) is: (1) Europe—Ancient and mediaeval. Most elementary notions of the various epochs of European history. Each to be described with one or two remarkable incidents and one or two prominent characters, and (2) India.—From the earliest times to the foundation of Moghul Monarchy by Akbar. Details to be carefully avoided. The student is to be introduced only to the principal forces, movements and institutions that have shaped the character of the Indians through the ages.

The Syllabus for the last two years has been formed by Professor Sarkar with great care so as to bring into prominence the principal factors of Indian Civilisation. The object is to give the student not so much a chronicle of dates, dynasties and disconnected facts as an idea of "The working of the forces, both national and international as well as political and non-political, that have moulded the history of Indian people." All teachers of history and writers of Matriculation and advanced text-books on Indian history should take note of this scientifically conceived curriculum. We propose to publish the entire scheme in a future issue.

In connexion with this it is necessary to note the other features of the Pedagogic System that are calcudated to make historical studies easy interesting and practical:

(1) The mother tongue is throughout the medium of instruction.

(2) The students are to use no text books.

(3) Teaching of details to be avoided as far as possible.

(4) Examinations to be wholly oral.

(5) There are due coordination and inter relation between the historical syllabus and the lessons in Geography, literature and the physical sciences.

THE UNIVERSITIES

Calcutta University

Final Examination in Law Results.

In the Final Examination in Law held in January 1913, 17 students passed in the first division of whom 10 belong to the University Law College, 4 from the Patna Law College and 3 from the Dacca Law College; 96 passed in the second division. Rupendra Kumar Mitra of the University Law College headed the list.

Intermediate Examination in Law Results.

In the Intermediate Examination in Law held in January 1913, 137 students passed, 9 in the first division (8 from University Law College and 1 from the Ripon College) and 128 in the second division. Ambujaksha Sarkar of the University Law College headed the list.

Matriculation Arabic and Persian Courses.

In the University Selections in Arabic compiled and edited by Dr. Ross the following portions are omitted for the Matric Examination of 1914: Selection from the Holy Koran, pages, 1 to 10, Selection from the Tarekh-i-Tabari, pages 46 to 47. In the Persian Course the portion pages 84 to the end is ommitted for the Matriculation Examination of 1914.

A new centre.

Muzaffarpur has been appointed a centre for holding the I. A. and B. A. examinations with effect from the ensuing examinations.

Research Scholarship.

Babu Surendra Mohan Ganguli is, granted a scholarship of Rs. 100 a month for one year for research in "Pure Mathematics with special reference to the subject of Projective Geometry," the place of work being the Calcutta University Library.

Madras University

Senate Meeting, March 7 and 8, 1913.

Taxing Degree in Absentia.

The fee to be paid for taking degrees in absentia was raised from Rs. 10 to Rs. 25.

Change of date

The Syndicate reported to the Senate under Regulation 96 (VI) that it had been arranged to hold the first L. M and S and first M. B and C. M. and second M. B. and C. M. Examinations one week earlier and to change the dates and hours of examinations in Indian History, Economic and special subjects in Branch V of the B. A. Degree.

University Lectures.

Mr. Justice Sundara Aiyar moved and he was duly seconded that the following list of University Lectures for the Academic year 1913-14 be approved by the Senate:—

Name of Lecturer	Subject	Year of Honours Course	Duration of Course	Time of delivery
Mr. P. V. Seshu Aiyar, B. A., L.T.	Fourier's Series and Integrals and Spherical Harmonics with application to Physics.	3rd	20 lectures.	July to Sept., 1913.
Rev. A, Moffat, M.A., B Sc., F.R.S.E.	Conduction of Electricity in Metals, Electrolytes and Gases.	...	30 lectures.	July to Nov. 1913.
Rev. E. Gombert S,J. ...	The wave theory of light.		20 lectures.	Oct. to Dec., 1913.
Mr. W. Erlam Smith, M.A.	The History of the Determination of Atomic Weights.	3rd	do.	July to Sept., 1913.
Mr. J. L. Simonsen, D.Sc.	The Chemistry of Synthetic Dye Sunffs.	3rd	20 lectures with Practical work.	do
Mr. P. F. Fyson, B.A., F.L.S.	The Geographical distribution of Plants with special reference to India.	2nd and 3rd	12 lectures with 12 or more Practicals.	Jan. to Mar., 1913.
Mr. W. Rae Sherriffs, M. A. B.Sc.	The Parasitic Protozoa or Parasitology.	2nd	10 lectures of one hour each with 10 Practicals of two hours each.	Oct. to Dec. 1913.
Mr. Murray Stuart, D. Sc.	The oil-fields of Burma ; recent advances on our knowledge of their structure and relationships ; their yield and the probable supply of oil still available ; oil field problems ; improved fields ; other oil fields in and around the Indian Empire and their importance.	2nd and 3rd	20 lectures.	July to Sept., 1913.
Mr. Ferrand E. Corley, M.A.	Ancient Federations	2nd and 3rd	20 lectures.	Jan. to Mar., 1914.
Rev. P. Carty, S.J. ...	Modern Taxation and India.		20 lectures.	Oct. to Dec. 1913.
Mr. Mark Hunter, M.A.: ...	Indo-Germanic and Germanic Philology with reference to Gothic and old English accidence.	2nd	20 lectures.	July to Dec, 1913 (10 lectures a term).
Mr. J. H. Mackintosh, M.A.	The History of Criticism.	1st 2nd and 3rd	20 lectures.	Oct. to Dec., 1913.
Mr. S. J. Crawford, B.A., B. Litt. ...	Old English Poetry.	1st 2nd and 3rd	20 lectures.	July. to Dec, 1913.
Mr, S. Kuppuswami Sastry, M.A.	Hindu Philosophy with special reference to Nyaya and Vaiseshika systems.		20 lectures.	Oct. to Dec., 1913.

MR. Mark Hunter then moved for adoption of the Report of the Committee of the Senate appointed on March 2, 1912, to consider and report upon the position occupied by Languages other than English in the various courses of study and to frame and present to the Senate any proposal for alterations in the regulations that may be considered desirable in order to ensure more attention being paid to such languages.

Position occupied by the Languages

The following were the Resolutions adopted by the Committee which the Syndicate placed before the Senate :—

(1) that it is unnecessary and undesirable to recast the existing general scheme of course and examinations so as to render the further study of Indian Languages compulsory for all Intermediate or B. A. students, or for any group of such students.

(2) that no real improvement in language studies is likely to result from such modification of the general scheme.

(3) that it is unnecessary and undesirable to modify the existing regulations for Part II of the Intermediate Course and Examination.

There was a long and lively discussion on this Report, in the end it was carried by 45 against 16.

Affiliation

THE application of the American College Madura for affiliation in Groop V for B.A., that of the Madras Christian College for further affiliation in B. A. Honours course in Mathematics and that of the Central College Bangalore in Group II B of the B. A. course were granted by the Senate.

University Studentships

MR. Sreenivasa Aiyangar did not wish to move the 2nd Resolution standing in his name but formally moved only the following first Resolution, the Vice-Chancellor informing the Senate they were going to do the very same thing asked for in the Resolution. :—

1. That Regulations 401 to 411 be revised by the Syndicate so as to provide for the grant of University studentships of higher value and of longer terms of years and not limited to subjects in the Faculties of Arts, Medicine, and Engineering only. The Resolution was carried.

Bombay University

Changes in Fees

THE following proposal of the Syndicate was adopted by the Senate : that the fees be established as follows—Previous examination, Rs. 10 ; Intermediate examination in Arts, Rs. 20 ; B. A., degree examination, Rs. 30 for pass examination, and Rs. 40 for honours examination ; M. A. degree Rs. 60 ; Intermediate in Science, Rs. 25 ; B. Sc. degree, Rs. 30 ; M. Sc., Rs. hundred. The proposed increase in the examination fees, said Dr. Mackichan, would bring the fees on a level with the fees charged by other Universities.

Senate Meeting March 7

AT a meeting of the Senate of the Bombay University, held on the 7th March, the Rev. Dr. Mackichan moved the adoption of the courses in science, geography and the vernaculars for the Matriculation examinations as recommended by the Syndicate. The Senate considered a proposal to hold the examination for the degree of L. C. E. for the last time in 1913. Consideration was also given to the desirability of raising the standard for passing in the minor subjects of the final M.B., B.S., examinations.

Allahabad University.

Fellow

MR. Atul Chandra Chatterjee of the United Provinces Civil Service has been appointed an Ordinary Fellow of the Allahabad University.

THE HINDU UNIVERSITY

Subscription realised

THE total amount realised up to February 1913 is Rs. 20, 56, 951—13 as.

Societies & Academies

CALCUTTA MATHEMATICAL SOCIETY.—The annual general meeting of the Calcutta Mathematical Society was held at the Senate House on the 24th February. The Hon'ble Justice Sir Ashutosh Mookerjee was in the chair. The Secretary read the annual report for the year 1912 which was adopted. The Treasurer submitted a statement of accounts for 1912. The following officers and Council for the year 1913 were elected ;—President Hon'ble Justice Sir Ashutosh Mookerjee. Vice-Presidents—Sir Gooroo das Banerjee. Col. S. G. Burrard, Dr. C. E. Cullis. Treasurer—Mr. A. C. Bose, Secretary—M Phanindra Lall Ganguly. Council—Prof. Gauri Sanker De, Hon'ble Mr. Justice A. Chaudhuri, Hon'ble Mr. Mahendra Nath Roy, Dr. Syama Das Mukerjee, Dr. H. M. Sadow Pittard. Dr D. N. Malik, Prof. Kali Prasonno Chatterjee, Dr. Ganesh Prasad, Dr. S. C. Bagchi. The following gentlemen were proposed for elec-

tion as members—Messrs. K. N. Sen Gupta, Ganesh Lall Nahata. Balbhadra Prasad Jyotishi, G. Venkiah. The following papers had been announced for the meeting—Dr. C. E. Cullis—Some general remarks concerning matrices; Prof. J. M. Bose—Equations of motions of a plane surface through air with special reference to its stability.

ASIATIC SOCIETY OF BENGAL—At the monthly meeting held on 5th March Mr. K. P. Jayaswal exhibited an elephant-headed drain-pipe found in 1900 in the ruins of the old Rajagriha of the Brhadrathas and the Sisunagas. The following papers, among others, were read :—Tripulidae and Culicidae from the Lake of Tiberias and Damascus, By F. W. Edwards, B.A F.G.S., communicated by Dr. Annandale in October 1912, and forwarded to me for determination, though far from numerous either in individuals or species—only three species of Tipulidae and seven of Culicidae being present, as yet proved of very considerable interest. Three species at least are new to Science one of them (the Uranotaenia being the first of its genus to be found within the Palaearctic region. The occurrence of Conosia irrorata makes a notable extension of the known range of this widely spread species. A Preliminary Account of a revised Classification of Indo-Australian Passalidæ, By F. H. Gravely.—The Passalidae inhabiting the Indo-Anstralian region can conveniently be divided into six sub-families. This necessitates a rearrangement of the recognized genera, and the erection of a genus with Tiberius kuwerti, Arrow, as type. A note on Rotifers from Galilee, By C. F. Rousselet Communicated by Dr. N. Annandale.—Recognizable specimens of four widely distributed species were found in a tow—netting taken on the surface of the Lake of Tiberias in October 1912; while two sessile forms were reared in Calcutta in large numbers from dried mud from the bed of a small pool between Tiberias and Nazareth. One of these (Ocister socialis, Weber), although widely distributed, is a rare species. The Ancient Civilization of Bengal By Mahamahopadhyaya Haraprasad Shastri, C. I. E.—The early inhabitants of Bengal were not Aryans, but a race known for their industry and commerce, colonization and philosophy. Buddhism took its rise on the borderland of the Aryan culture, and it owned more to eastern India than to western India.

CALCUTTA UNIVERSITY INSTITUTE.—On Friday 7th March His Excellency the Governor of Bengal received a deputation from the junior members of the Calcutta University Institute consisting of the following gentlemen :—Babus Sisir Kumar Bhaduri. Amulyaratan Chakravarti, Nares Chandra Mitra, Panna Lal Mookerjee, and Profulla Chandra Ghatak. The deputation was accompanied by the Secretary of the Institute, Babu Khogendra Nath Mitter. The deputation was introduced by Mr. Gourlay, Private Secretary. Babu Sisir Kumar Bhaduri then read a history of the Association for His Excellency's information. The deputation thanked the Government for the grant of two lakhs of rupees towards the provision of suitable building for the Institute. They also asked His Excellency if His Excellency would kindly pay a visit to their annual picnic on Saturday afternoon and preside on the 26th instant. His Excellency thanked the deputation for having come to see him and granted both their requests.

MADRAS MEDICAL GRADUATES' ASSOCIATION.—The Fourth annual General Meeting of the Medical Graduates' Association was held at Rosendale, the residence of Mr. G. L. Philipsiz, Vepery, on Saturday 1st March with Rao Saheb Thamman Singh (President) in the chair and the members present included Drs. Mr. Vijiaraghavulu, P. M. Belliappa, A. Lakshmipathi, Veeran Naidu, G. L. Philipsiz, and Narayanaswamy Mudaliar. Dr. A. Lakshmipati the Honorary Secretary presented the report for 1912 and this was read and adopted.

One important feature of the year under Report was that the following Resolution was carried and brought into force :—"That graduates in Government Service may be admitted to be associates of the society and allowed to enjoy all the privileges of the members, in all matters except those that are likely to lead to representations and memorials to Government in which they on account of their service under Government may be debarred from taking part."

The Executive Committee for the current year was then formed; Mr. Thamman Singh was re-elected President and Mr. G. L. Philipsiz was elected as Secretary. An auditor was then selected for the current year.

TEACHERS ASSOCIATION MADRAS.—Under the auspices of the Teachers' Association, Teachers' College, Saidapet, a lecture on "The Eastern Question" was delivered on 1st March 1913 by Rev. E. Macphail in the new College Hall before an audience of Teachers, when Mr. S. Kasturiranga Iyengar, B.A. B.L., Editor of the *Hindu*, presided. Among those present were Mrs. Macphail, Mr. H. S. Duncan and Mr. T. S. Subramania Aiyar.

TEACHERS' ASSOCIATION, TANJORE.—The Tenth Anniversary of the Pupil Teachers' Association attached to the local Government Training School was celebrated on the 27th February in the school Hall, Mr. Hart, Inspector of this division presiding The Secretary's report showed steady solid work done during the year through many lectures and the four excursions for object lessons. There was a special lecture arranged for this meeting by Mr. C. Sivagianam Pillai on "Kamban and his works" which with its many citations was a very learned one. The chairman then delivered an Address in the course of

which he complimented the Association on its useful work and marked it as one of the few well conducted Associations attached to such institutions. He then exhorted the teachers who after finishing their training were just leaving for actual work in their respective schools to remember the nobility and the high responsibility of their work in the cause of education and to act up to the principles they had been taught in their course.

THE COLLEGES AND SCHOOLS

La Martiniere College Calcutta

The annual distribution of prizes to the meritorious students of La Martiniere College, Calcutta, was held at the College premises on Monday the 3rd March 1913. His Excellency the Governor of Bengal presided and there was a large attendance of ladies and gentlemen. Among those present were: The Lord Bishop of Calcutta. Lady Jenkins, Mr. Justice Holmwood, Mr. Justice Harington, Mr. Justice Chitty, Hon. Mr. P. C. Lyon and Mrs. Lyon, the Hon. Mr. Maddox, the Hon. Mr. Shorrock, Mr. Justice Chapman, the Hon. Mr. Kuchler, Mr. W. R. Gourlay and Mrs. Gourlay.

The Proceedings commenced with a Song after which the Principal Mr. W. H. Arden Wood presented the report. The School was opened on March 1st 1836. The average monthly strength of the school for the year was 230. In December 1911 forty boys appeared in the cambridge University Local Examinations. Eight candidates sat for the Senior Local Examination of whom seven passed. His Excellency then gave away the prizes after which he addressed the gathering.

Bethune College, Calcutta.

The prize distribution of the Bethune College was held at the College hall on the 11th March 1913 before a fairly large and representative gathering of ladies and gentlemen, European and Indian.

Owing to the unavoidable absence of Her Excellency through indisposition the Hon'ble Mr. P. C. Lyon presided and Mrs. Lyon distributed the prizes which consisted of medals books, articles of stationery, boxes, dolls and musical instruments.

The girls went through an interesting programme, comprising chanting of Vedic hymns, recitations in Bengali and English, Bengali song and instrumental music.

The report of the Lady Principal informed us that the total number of pupils on the 31st December last was 214 compared with 182 on the corresponding date of the previous year. The results of the University Examinations were satisfactory. Three candidates appeared at the Matriculation Examination last year; all of them passed—two in the First, and one in the Second Division. It is highly gratifying to note that one of the candidates, Miss Tatini Gupta, headed the list of the Matriculation candidates from Western Bengal, and secured a junior scholarship of Rs. 20 per month, while another, Miss Sita Chatterjee, was awarded a junior scholarship of Rs. 10 a month. Nine candidates appeared at the Intermediate Examination in Arts, all of whom were successful, three being placed in the First Division, and six in the Second Division. Two of the girls, Miss. Bibhabati Mitra and Miss Santa Chatterjee, secured senior scholarships of Rs. 25 and Rs. 20 per month, respectively. Eight candidates were sent up for the B. A. Examination, of whom three were successful. One of the successful candidates, Miss. Nirmala Roy, will receive the Padmavati Medal for standing first among the female candidates of the year, while the Gangamani Gold Medal will be awarded to Miss. Pritibala Ghosal, another successful candidate from this college, for her standing first in Philosophy among the female candidates of the year.

The Hon'ble. Mr. Lyon in the course of his address informed the committee that money had been provided in the project for the expansion of the building and the hostel.

Metropolitan Institution, Calcutta.

On the 8th instant, the students and teachers of this institution gave a farewell address to Babu Priyanath Mukerjee their late Superintendent and Head master on the occasion of his retirement from service extending over a period of 48 years. A most cordial reception was accorded to Babu Priyanath Mukerjee who was garlanded and was presented with a highly ornamented silver tray on which were placed a pair of gold-rimed spectacles in silver case.

National Council of Education, Bengal.

The foundation-day celebration of the National Council of Education was performed on March 11th, at Panchabati Villa, Maniktala, where the Bengal National College and the Bengal Technical Institute were located. Most of the members of the Council, the guardians of students and ex-employees of the Council and other interested in its affairs attended. The premises of the Council were tastefully decorated with evergreens and electric lights. Songs, sports and recitations, etc., formed part of the programme which concluded with light refreshments. Among the members present were: Sir Gooroodas Banerjee. Babu Hirendra Nath Datta, Mr. A. Rasul and others.

Madras Presidency College.

The Anniversary of the Madras Presidency

College Tamil Manavar Sangam, was celebrated with great enthusiasm in the College Lecture Hall. The Hon'ble Mr. Justice P. R. Sundara Iyer presided. The proceedings of the evening began with a prayer in Tamil by a student of the College.

Mr. E. V. Anantharam Iyer, Tamil Pandit, P. S. High School, Mylapore, read a small poem in Tamil, composed by himself, for the occasion in praise of the qualities of head and heart of the distinguished chairman. The Annual Report of the Sangam for the year 1912-13 was then read by one of the Secretaries of the Sangam. The Report showed that the Sangam did good work in the past year. The finance of the Sangam is said to be fairly satisfactory. A spirited Tamil lecture was then delivered by Mr. S. Sachithanantham Pillai B.A., on the "Present condition of Tamil and the value and Sacredness of Tamil Literature." Mr. P. Ramanatha Mudaliar, Solicitor, Madras, addressed the meeting in English on value of the Vernacular Literature, with special reference to Tamil.

The students of the College then enacted a Drama "Vedavathi Swayamvaram" with great success. A few of the girls studying in the College furnished good Vocal Music at intervals.

MADRAS MEDICAL COLLEGE.

The Annual Social gathering of the past and present students of the Medical College, Madras, was held on Saturday the 1st March at 4 P.M. in the College compound. A large number of ladies and gentlemen were present. The Surgeon-General and the College Professors took part in the pleasant function. As usual some time was spent in conversation and then the guests were treated to light refreshments. A long and interesting programme of music, (Vocal and instrumental) English and Indian, was gone through. A play in one Scene, *The Surgeon-General's Prescription*, written by Mr. V. V. Srinivasa Iyengar for the occasion, was successfully enacted by the College students.

ZAMORIN'S COLLEGE, CALICUT.

The Zamorin is organisidng a permanent fund for the up-keep of the institution. We now understand that over and above this fund, it has been made binding on every tenant to contribute annually together with the pattams a sum ranging from as. 4 to Rs. 2 towards the maintenance of institution. The Zamorin has nearly 80,000 tenants and it is said that the procedure adopted will bring in an annual income of Rs. 25,000.

A HIGH SCHOOL FOR GIRLS IN TRIPLICANE.

With effect from the 3rd March 1913, the Maharajah of Vizianagram Girl's School at Triplicane, becomes a Government institution, with a new set of teachers. For the present, instruction will be given up to the III Form, and higher classes will be opened as pupils begin to join them. The school is located in the house in Big Street, newly built by the late Dewan Bahadur M. Ramaswami Naidu.

COLLEGE OF ENGINEERING, POONA.

His Excellency the Governor in Council has decided that there should be a standing advisory committee in connection with the College of Engineering, Poona. The function of the committee will be to advise Government on questions of policy, organization, staff, buildings, equipment, formation or reconstitution of classes, curriculum, rules of admission and any other subject connected with the college regarding which Government may require its opinion. As the committee will be closely associated with the college and will visit it periodically, it will be in a position to take the initiative in suggesting improvements and reforms in respect of the above matters. The committee will consist of nine members as follows :— Official members.—The Chief Engineer and Secretary to Government, Public Works Department; the Director of Public Instruction; the Secretary to Government, Educational Department; the Principal, College of Engineering, Poona; Lieutenant-Colonel W. V. Scudamore, R. E., Superintending Engineer, S. D. Non-official members.— The locomotive superintendent, G. I. P. Railway; the engineer in charge of the Tata Hydro-Electric Works, Lonavla: the Principal of the Victoria Jubilee Technical Institute Bombay; and the engineer of a selected Bombay Cotton Mill.

BAHAUDDIN COLLEGE JUNAGADH.

It was a mark of special favour to the College that during his short stay here of one day, H. E. Lord Sydenham could spare time to visit this Institution. His Excellency was conducted by Principal Scott through the various Departments. Various questions were put by His Excellency to the students and professors as to the method of work and courses of study. He congratulated the Principal upon the high efficiency the College had maintained in point of teaching. The students were photographed with their chancellor in the middle.

DYAL SINGH COLLEGE LAHORE.

The Anniversary of the "Union" of the Dyal Singh College was observed with great eclat by Students and the Staff. The Principal of the

College MR. T. L. Vaswani M. A. presided at the fore-noon meeting. Interesting speeches were made by some of the Professors. The evening meeting was presided over by Lala Harkishan Lal. An interesting and varied programme was gone through in the course of the day. Lala Harakrishan Lal made a beautiful speech in course of which he put the note of emphasis on practical co-operation as the one great need of India. The proceedings of the day were brought to a close with a feast in which Students and ex-students of the College participated with great joy. May their spirit of loyalty and devotion to their Alma Mater grow from more to more and build up great tradition for the College which represents a great movement of Progress in the Punjab.

Miss Roberts, Principal of the Bradford Grammer School for Girls and Miss E. Mc.Dougall, M. A. Lecturer at Westfield College, University of London, who are in India to study the condition of Women in this country, visited the Dyal Singh College. Principal T. L. Vaswani. M. A. greeted them cordially at the meeting of the general body of students. Miss Roberts and Miss McDougall then gave two beautiful addresses on the significance of female education. Principal Vaswani proposed on behalf of the College and the Brahmo Samaj a hearty vote of thanks which was carried with acclamation. In the course of her interview with Principal Vaswani, Miss Roberts referred to what she thought were the defects in educational machinery and organisation for girls in India. She pointed out that India was in need of lady teachers, some great personalities whose influence could achieve more than mere books. Again female education as it existed in India was absent, the educational system was over-ridden by examination, and Indian girls needed better diet, more comfort, and efficient physical education.

Miss Roberts and Miss Mc Dougall left the Institution with the best impression of what they spoke as "a great College".

EWING CHRISTIAN COLLEGE ALLAHABAD.

His Honour Sir James Meston visited the Ewing Christian College and was shown over the buildings and classes by the principal Dr. Edwards. He met the professors later in the common room. Dr. Stanley White of New york visited the College on Friday the 14th instant.

Professor Alfred Vivian, Head of the department of Agricultural Chemistry at Ohio University, has just gone on to China after two months in India. During this time he travelled over five thousand miles. He landed at Colombo, travelled up to Poona via Madura : visited the Agricultural College and the Military Dairy there : also visited the Agricultural College at Cawnpur & Lyallpur and Dairies at Umballa, Lahore and Amritsar. He spent days out in the villages and saw the people at work. He took over two thousand photographs on his trips. He lectured a number of times and those fortunate enough to hear him gained much from his ripe judgment. At Allahabad he stayed with Professor Higginbottom, Head of the Agricultural Department of the Ewing Christan College, and delivered several lectures to the students of the Christian College, and the Muir Central College.

While not claiming to have seen enough to enable him to judge and advise, he is yet enthusiastic over the possibilities of Indian Agriculture. Scientific agriculture, intelligence and diligence should more than double the income of average ryot of India. Such a judgment coming from such an authority would greatly encourage the Mission College Agricultural Department if such encouragement were necessary. The following rhyme of Professor Vivian's has been quoted with approval all over India.

There was a man in our town,
And he was wonderous wise,
He knew that if he wanted crops,
He'd have to fertilize.
" It's Nitrogen that makes things green,"
Said this man of active brain
" And Potash makes the good strong straw
And phosphorus plums the grain."
But it's clearly wrong to waste plant food
On a wet and soggy field,
So I'll surely have to put in drains
If I'd increase the yield.
And after I have drained the land
I must plough it deep all over,
And even then I'll not succeed
Unless it will grow clover.
Now acid soils will not produce
A clover sod that's prime,
So if I have a sour soil
I'll have to put on lime.
And after doing all these things,
To make success more sure,
I'll try my very best to keep
From wasting the manure.
So I'll drain and lime and cultivate,
With all that that implies,
And when I've done that thoroughly
I'll manure and fertilize.

THE GURUKULA ACADEMY AT HARDWAR.

His Honour Sir. James Meston accompanied by Mr. Burn Chief Secretary the Collectors of Bijnor and Saharanpur, Mr. Hobart and many other high officials visited the Gurukula on the 6th of March. His Honour was accorded a most enthusiastic and and hearty welcome by the Governor, the staff and the Brahmacharies who in their yellow robes lined both sides of the route and cheered lustily. His Honour inspected all the departments of the

Gurukula and was very favourably impressed with what he saw. He evinced special interest in the experiment of teaching Botany, Mathematics, Chemistry and Economics through the medium of Arya Bhasha. His Honor watched the Professors and students at work. An address of welcome was presented in Sanskrit. In reply His Honour characterised the Gurukula as wonderful, original, interesting and stimulating experiment. The Professors as a band of devoted ascetics combining the traditions of the ancient Rishis with modern scientfic methods and the Brahmcharies as a set of loyal, obedient, truthful pupils extraordinarily happy and extraordinarily well-fed. His Honour was pleased to say: "I will not talk of the political aspect of the question where politics are unknown."

TECHNICAL EDUCATION

GRANT ON AGRICULTURAL EDUCATION.

The Hon'ble Sir Harcourt Butler, replying to the Hon'ble Mr. Rayaningar Venkataranga's question re the expenditure of a portion of the Imperial Durbar grant of 50 lakhs a year on agricultural education said (A) No portion of the annual grant of 50 lakhs, announced at the Imperial Durbar of 1911, has been allotted for schools, which exclusively devote themselves to the teaching of Agricultural Chemistry. The curricula, however, now generally contain nature study and simple lessons dealing with crops, cattle, etc., calculated to impart the kind of instruction described in Paragraph 21 of the Government of India's Resolution on Education of March 12, 1904. These curricula were followed in Primary Schools, for the extension and improvement of which (as well as for the extension of the principle of free education) 30 lakhs were allotted out of the above-mentioned grant.

(B) The Government of India are not aware of the existence in the country of schools of agriculture of a strictly elementary character nor of any likelihood of such schools being brought into existence in the near future. A school of agriculture was however, opened in Poona in 1910 for boys between 13 and 16, who had passed the fourth Marathi standard and it is proposed to start similar schools in Southern Mahratta country, Sind and possibly Gujrat.

SCIENCE ASSOCIATION STUDENTS.

The following students have been on the recommendation of the Selection Committee, selected by the Executive Committee of the Association for the Advancement of Scientific and Industrial Education of Indians for industrial education in foreign countries:—

Kiron Kumar Sen Gupta M.A., M.M.G.I.I., F.G.S., etc. etc., Rs. 100.
Sudhamoy Ghosh, M.Sc., Rs. 50.
Kshitish Chandra Basu, M.A., Rs. 50.
Jogendra Chandra Das, B.Sc., Rs. 50.
Nirodakanta Sen, B.Sc., Rs. 25.
Protibharanjan Roy, B.Sc., Rs. 25.
Chintaharan Acharji (Read up to I. E.) Rs. 25.
Birendranath Dey, (Read up to I. E.) Rs. 25.
Nripendra Kumar Nag, (Passed Overseer Examination. Dacca School of Engineering) Rs. 25.
Amarendranath Bose, L.M.T. Rs. 25.
B. Paul. (Passed the final examination of B.T. Institute) Rs. 25.

NATIONAL COUNCIL OF FDUCATION BENGAL.

The following are the results of the Supplementary Public Secondary Technical Examination, 1912:—Mechanical and Electrical Engineering (First Division) Rajendra Kumar Bose (Bengal Technical Institute). The following are the results of the Supplementary Public Primary Technical Examination, 1912:—Mechanical and Electrical Fitting First Division—Satish Chandra Sen Gupta and Jitendra Nath Das (Bengal Technical Institute). Second Division—Anil Prasad Datta and Surendra Nath Bose (Bengal Technical Institute.)

JOINT TECHNICAL EXAMINATION BOARD BENGAL.

In modification of Government notification No. 5853, dated the 8th October 1912, the constitution of the Joint Technical Examination Board of the Presidency of Bengal and of the province of Bihar and Orissa will in future be as follows:—

1. Chief Engineer, Roads and Buildings Branch, Public Works Department, Bengal Ex-officio President. 2. Superintending Engineer, Eastern Circle. 3. Principal, Civil Engineering College, Sibpur. 4. Principal, Bihar School of Engineering. 5. Principal of the Dacca College.—"Ex-officio Members." 6. Mr. A H C MacCarthy, Superintending Engineer, Gandak Circle, representing Public Works Department, Bihar and Orissa—Member. 7. Superintendent of Industries and Inspector of Technical and Industrial Institutions, Bengal.—Ex-officio Secretary.

The nominated member will hold office for a period of three years.

2. The duties of the Board are—

(a) to control the overseer and sub-overseer examinations in Bengal and Bihar and Orissa and such other examinations as may from time to time be placed under the control of the Board; (b) to notify the results of these examinations affiliated to the respective Governments and also to the institutions affiliated to the Board; (c) to appoint examiners for these examinations; (d) to receive and consider the reports of examiners; (e) to issue to candidates succesful at these examinations certificates signed by the President of the Board and also

Washington, 24; West Virginia, 18; Wisconsin, 16; and Wyoming, 1.

Argentine Republic, 7; Austria, 1; Bahamas, 1; Brazil, 18; British Guinea, 1; British West Indies 6; Canada, 5; Chilli, 1; China, 13; Colombia, 5; Costa Rica, 3; Cuba, 10; Denmark, 1; Ecuador, 5; Egypt, 5; England, 5; France, 6; Germany, 5; Greece, 1; Guatemala, 4; Hawaii, 2; Holland, 5; Honduras, 1; India, 2; Italy, 8; Japan, 5; Mexico, 12; New Zealand, 4; Nicaragua, 4; Nova Scotia, 1; Panama, 4; Persia, 1; Peru, 3; Philippine Islands, 2; Porto Rico, 13; Portugal, 1; Roumania, 1; Russia, 1 Salvador, 1; Scotland, 6; South Africa, 2; Spain, 2; Turkey, 1.

EDUCATION IN VERNACULARS.

For the first time in the history of Indian education in South Africa, Indian languages are now acknowledged as being necessary as a medium of training Indian children in schools. One of the conditions accepted by the Witwatersrand Central School Board, in connection with the establishment of an Indian school in Johannesburg, is that the Gujarati language 'may be taught as a language and used as a medium of instruction. It strikes us as being remarkable that the Education Department in Natal should have been so blind as not to see that the mother-tongue is an absolute essential to school-training. The position now is that not a single Indian school in Natal, under Government control, gives instruction through the language of the pupils. Nor are Indian vernaculars taught as languages to Indians in the schools, except in one or two cases where the teachers kindly give instruction in those languages after school hours to those who specially wish it. Mr. Gokhale, in his farewell speech at Pretoria, laid emphasis on the need for teaching Indian vernaculars in school hours. He also rightly pointed out that, so long as such instruction is not given, it is a legitimate excuse for the Indian community to ask for the admission of clerks and others so instructed, for the proper keeping of their books. But most of all we would urge the importance of the study of Indian languages because, without a knowledge of one's own mother-tongue, it is impossible to be a true patriot; one's ideas becomes warped and our hearts estranged from the Motherland. Much as we admire the bright intelligence of our Colonial-born young men, we feel that there is something missing, and that is, a knowledge of real Indian thought, history, and literature.

What our Students are doing Abroad

LONDON B. Sc. ENGINEERING INTERMEDIATE—C. V. Moodeliar.

CAMBRIDGE.—The following have taken the *Diploma in Tropical Medicine and Hygiene*: Alakh Behari Arora, Framroz Dosabhoy Bana, Raghunath Kashinathjee Mhatre, Atul Krishna Sinha.

The Indian Medical Service.—The following candidates have been successful in the competitive examination of the Indian Medical Service: Nawin Chand Kapur, M.R.C.S., L.R.C.P.; Haji Sulaiman Gulamhussein Haji, M.R.C.S., L.R.C.P.; and Narayan Krishna Bal, L.M.S., Bombay and M.R.C.S., L.R.C.P.

CALLS TO THE BAR.

The following were called to the Bar on January 27:—

Lincoln's Inn.—Maung Thein Maung (Certificate of Honour C.L.E.), Downing College, Cambridge; Makanji Jutha Mehta (Certificate of Honour C.L.E.), B.A., L.L B. Bombay; Tehmuras Kavasji Modi (Certificate of Honour C.L.E.), B.A., LL.B. Bombay; Phiroz Dorabji Gorwalla, Vithal Narayan Chandavarkar, B.A. Cambridge; Mir Anwaruddin, Sheikh Ghulam Rasul, Silam Jagannath Row, Sohan Lall.

Inner Temple.—R. M. Palat, B.A. Oxford: Ba Kyin.

Middle Temple.—Vallabhbhai Javerbhai Patel (Certificate of Honour C.L.E.), Bimal Chandra Ghose, B.A., B.L. Calcutta (Certificate of Honour C.I.E.); Krishnan Krishnan Pandalai, B.A., B.L. Madras, LL.B. London (Certificate of Honour C.L.E.); Main Mohammad Rafi, Ganapathy Somasundarum, Fredoon Firoze Tarapore, B.A. Allahabad; Ardeshir Ruttonji Wadia, B.A. Bombay: Sheikh Ghulam Ahmad, Biswanath Misra, Ratanji Sorabji Dadachanji, B A., LL.B. Bombay; Pherozeshah Hormusji Judge, B.A. LL.B. Bombay; Rustom Merwanji Alpaiwalla, B.A. LL.B. Bombay.

Gray's Inn.—Kottapalli Subba Reddi (Inns of Court Studentship, Holt & Barstow Scholar), B.A. Madras; Sajani Ranjan Bandyopadhyay, B.A. Calcutta; Sudhir Chandra Basu, Nrisinhadas Bhagwandas Vibhakar, B.A., LL.B. Bombay; Vaman Atmaram Kirtikar, B.A., LL.B. Bombay.

HOME-STUDY REFORM

BY WILLIAM WIENER.

Principal, Central Commercial and Manual Training High School, Newark, New Jersey, U. S. A.

In matters scholastic the sole guide and inspiration has been tradition. Like the Chinese wall which barred from entry the civilizing influences of modern times, the tradition of conventional methods in education has generally frowned upon new thought and plans not based upon precedents. It is our purpose to break an opening in this Chinese wall of educational traditions by forcing through it humane, common-sense innovations on a vital matter—home-study.

Has it ever occurred to the teacher that he deals with living material souls? If so, then let them be treated as something more than material which must perhaps, figuratively speaking, be molded and handled to suit the artificial conditions of traditional origin and present convenience. It is, as a matter of course, easier to move along beaten paths than to make new roads which in the end may prove more advantageous. Unfortunately many of us are not ready for new doctrines when we find that they mean more work for the teacher. If the creed, the schools are for the boys and girls and not for the teachers, except in so far as the teachers are there for the pupils, be accepted, you will have at least one basis for the statements and experience herewith presented.

What a school is, does not require definition. The teacher is the important factor of the school. The modern teacher has too often, per force of tradition and method, become a mere automatic recitation-receiving device and a machine lesson-assigning apparatus. This implies that lessons are assigned to school attendants. Less than 50 per cent of the pupils, as teachers well know, do the unreasonable amount of home-study required of them; the other 50 per cent "kill time" at school. Just bear this in mind, however. The municipality, the state, and the United States have established eight hours as the legal day for manual workers. I do not think it right or even humane that we educators should work young boys and girls five hours in school and then set tasks that take many, many hours at home. If the common eight-hour law applies to the adult man for manual labor, I cannot comprehend why it should not be enforced in favor of the growing school child who has not reached his maturity, since mental labor is more trying and enervating.

Under present conditions of lesson-assignment, the conscientious children come from play to the evening meal, hurriedly swallow that, and then work at books until bedtime. In this way not only do they menace their health, but they lose the association with parents and the necessary appreciation of family relations and interests. To this is in my judgment, partly to be attributed the children's rampant disrespect for parents and elders who cannot understand or know their offspring because of lack of association. Further, I believe that the present undercurrent of immorality in the lives of boys and girls is, in part, due to this loss of parental association and the lack of the moral influence of the family. Home study is a frequent excuse for children to remain away from church on Sunday and from church functions which occur during the week. Evenings, too, the child is of necessity debarred from attendance at lectures, at concerts, or at the theater. Thus it is evident that the present methods, to a certain extent, are unhygienic, and bar the child from such moral, cultural, and religious influences as would do much to educate him in the highest sense.

The school should be the educational workshop, the place where, if possible, all the work of the school should be done. Many children do not have proper home environment for study, while some are forced to assume household duties, and others to go to work. It would be well if the child, when night comes, could throw off, as does the laborer and business man, his burdens and cares. This plan of ours is founded upon common-sense sentiment which has in mind the welfare of the boys and girls. By employing a rational method for minimizing homestudy or carrying on the same on a sane basis, we, in the Central Commercial and Manual Training High School of Newark, are trying to practically emancipate pupils from home study.

The school program has five main hour periods in a day, with five-minute intermissions for recreation and relaxation. School begins at half-past eight. A ten-minute spelling period is followed by daily morning exercises lasting till the beginning of the first hour period, about nine o'clock. Three periods complete the morning session, which ends at a quarter past twelve. A half-hour noon period is allowed. Then two hour periods till three o'clock complete the required school session. From three to four o'clock, however, the subject-teachers are at their various stations, to confer with the pupils who may desire instruction or wish to study after school. This saves the students from what has frequently happened to you and to me. After spending many a weary, conscientious hour at study we would find points here and there in our lessons which we were unable to understand, and would decide to ask teacher the next day to mend for us the conception of a lesson punctured with doubts. But youthlike we forgot, or else too many

others were with teacher when we came, and teacher was not questioned. The lesson began, and' wonder of wonders, we were always asked for that which we did not know, and therefore unjustly credited with failure, though we had put much time on our task. By the new plan the pupil obtains the complete mind picture of the lesson through directed study instead of an impression of unsatisfactorily acquired knowledge.

Our periods last sixty honest minutes, and thus differ from the current forty-five-minute periods, which in the average, after all allowances have been made for the passage of classes, represent about thirty-five-minutes of recitation or work. The sixty minutes are divided into approximately equal parts, or as the teacher thinks best. The first portion of a period is spent in recitation. The second portion is employed in conference or independent study with the teacher, the children being in the atmosphere of the subject. It gives the instructor a chance to know that each child is studying his special subject, as well as to observe and direct the methods of study. The teacher who knows the subject, working with the children, can give them some of the trade secrets for handling the same. He shows the pupils how to study and how to form correct study-habits. This well-directed functioning power leads the pupil to confidence in self and to personal initiative. Thus the instructor is certain that honest effort has been expended, while individual, independent work has been done by the pupil.

Concentration and intensive effort in study, influenced by the aura of the inspired teacher, is the outcome of the system. Concentration is a valuable trait to the child as to the adult. Despite the distractions of the classroom, the child becomes so strongminded that he continues to devote himself to his work. Such power of self spells control at a critical moment. He is not the man of the hour who, when a crisis occurs, says "Keep quiet, or let me retire to my study to think this out." We are by this method cultivating the men and women of the future, who in the midst of distracting conditions will be able to think and act sanely, promptly, and properly, because of this acquired power to concentrate the thoughts when direct need requires.

The large study-room of the present is a place for the congregation of all who either have nothing to do or who have lessons to study. This room, policed by the best disciplinarian, becomes a place where an atmosphere of miscellaneous studies and pastimes has miscellaneous psychological effects upon the students. Such an atmospere is not suited to serious effort. Hence the "general" study-hall should, in my judgment. be abolished, as a wasteful part of the school scheme, in so far as the children's benefits are concerned.

Similarly in educational practice, the traditional recitation and study plan discourages the vast majority who are eager for the benefits of education, in that it does not give value proportionate to the effort expended. Children are quick to recognize this, and therefore leave school. The old system of apprenticeship fell into disuse, not only on account of the opposition of labor, but also because in most cases it did not accomplish all that was expected. It was wasteful inasmuch as the individual was for long periods kept at tasks that bore only incidental relation to the special vocational purpose. With the traditional plan of school administration, the recitation too frequently becomes for the pupil a mere exposure to a fusillade of questions, the intent of which generally is not to find out how much the pupil knows, but what he does not know. If the youngster knows an entire lesson except one or two points, he is considered ignorant only of those points, but of the entire lesson.

By the old plan of home study, we develop several classes of students: (1) those who may try to dig out things for themselves; (2) those who get injudicious aid from elders; (3) those who co-operate with one or more pupils in getting the lesson; (4) those who rely on fellow-students for their work; (5) those who do no work at all.

By the new plan the teacher is not at the pupil's elbow, to give indiscriminate assistance. Because of the long period, the teacher exercises the complete functions of the true teacher, whose purpose it is to cultivate in the pupil the power to do and to think independently, and thus to teach the most advantageous use of self. The new system encourages each pupil to work by himself and for himself. It gives him that honest, judicious direction of effort or energy that we find nature so fittingly analogously gives for the conservation of energy in every division of the universe. We in our school note that practically all the pupils work, and that independently. We have under the new system more evenly balanced recitations and greater interest than is obtained by the old method. After three months' trial of this system, discipline has become an almost unnoticeable factor in the administration of the school.

A psychological phenomenon, is our noon period. The teachers have been instructed to leave the school to itself. Many teachers leave the building for their luncheons. Pupils do not leave the building except on permit, but eat either in the lunch-rooms or on the roof playground. With a registration of 1,160, with a daily average attendance of 1,040, with no teachers in charge, with no monitor system, with no evident form of student-government, the Central High School manages and conducts itself properly throughout

the lunch period. This remarkable condition is in my judgement, due to our plan of school program. It is a fact that when the adult has performed his day's work satisfactorily he does uot seek evil channels as a means for getting rid of surplus energy. The child, because it feels contentment and satisfaction that arises from work well done and from repaid effort, does not ruse its surplus power for mischievous purposes. It does tigh for right's sake. From this springs that wonderful self-control which in the youthful body of over 1,000 students means a nucleus for good citizenship which every community must consider a most valuable asset.

There is an evident lack of fatigue, though the school hours are long, from half-past eight to three, with the extra period from three to four. There is no diminution of interest or weariness noticeable before the noon period or before the afternoon close of school. There is a patent alertness and brightness of the eye that indicates the good attention and scholarship which is present.

This system has not discouraged any of the usual school activities, as we have our athletic association, our monthly school paper, our orchestra, mandolin club, dramatic and other organizations. Administrative difficulties dwindle in number through our method, since self-control and kindred virtues spontaneously appear. Because of our method, we know that each pupil works to the best advantage.

By the plan given, home study is minimized, and in the case of the brightest pupils even eliminated. The plan permits the child after school hours to delve deeply into the treasures of literature while doing the laboratory work of English at the school. It offers time for other forms of research. It makes possible church-attendance and consequent religious and mortal training. It gives an opportunity for the aesthetic influence of music, the theatre, and the lecture-hall. The dread that the American boy will find his way to the street and to vice if left without home study is groundless. For this system has everything to offer in the way of inspiration to culture, refinement, and the ambitious desire for advancement and progress.

Home study should never be made a lever for influencing morals. Has the parent no duty in this connection? If the parent is powerless, let the social service organizations aid to better and strengthen moral influence and permit the school, while co-operating, to broaden the pupil intellectually and to give greater power to do and to be. By our plan we give the boy and girl a chance to develop manhood and womanhood. The school thus proves itself a friend, not a taskmaster, and becomes a humane, wise "assistant parent."

NEWORK, N. J. WILLIAM WIENER.

TO SAVE A LIFE FROM AN ELECTRICAL SHOCK.

With the rapid growth of electrical industry throughout the world. the fatalities from a sudden electric shock are more frequent than ever, but many of them have occurred on account of the ignorance, as to how a person should be treated who has been accidently shocked by electricity. A more common effect of an electric shock is "the suspension of respiration and of heart beat due to cordial paralysis." "An accidental electric shock does not usually kill the man at once but may only stun the victim and for a while stop his breathing. The shock is not immediately fatal because (i) the conductors may make only a brief and imperfect contact with the body. (ii) The skin unless it is wet offers high resistance to the circuit." Hence in many cases the life of a person who has become senseless from an electric shock can be saved if the respiration can be restored by an artificial means. Therefore the first aid to the injured should be the attempt to restore respiration, and if this can be done the life will usually be saved.

Realizing the importance of the subject the National Electric Light Association of New York (U. S. A.) in cooperation with the American Medical Association and the American Institute of Electrical Engineers, appointed a commission to investigate the means of resuscitation from an electric shock. The members of the committee were, Dr. W. B. Cannon Prof. of Physiology. Harvard University Chairman. Dr. Yandell Henderson. Prof. of Physiology Yale Univ. Dr. S. J. Mettzer, Head of department of Physiology and Pharmacy Rockefeller Institute of Medical Research Dr. Edw. Anthony Spitzka director and Prof. of General Anatomy, Jefferson Medical College, Mr. W. C. L. Eglin, Past president National Electric Light Asso. of New York, Dr. George W. Crile Prof. of Sergery Western Reserve Univ. Dr. A. E. Kennelly Prof. of Electrical Engineering, Harvard Univ. Dr. E. Thomson, Electrician Gen. Electric Company and Mr. W. D. Weaver Editor Electrical World as secretary. The committee has formulated a concise set of rules for resuscitation from an electric shock in June last and they have now been revised, and they deserve the study of every one, especially those who are engaged in electric occupations. In the committee the following three problems have been considered :—

1. What a lay man to do when he comes across a person who has been shocked and who apparently is dead.

2. How to produce quickly artificial respiration, without any apparatus, that can easily be learned by any man.

3. and the third—Scientists are to examine the possibility of restoring life where to all intents and purposes it has departed.

1. *Break the circuit immediately.*

The first thing to do, when a person is unconscious from an electric shock is to break the circuit immediately without receiving a shock. This should be done.

(*a*) With a single quick movement separating the victim from the current and the commission says "use a dry coat, a dry rope, a dry stick or board or any dry conductor. Beware of using any metal or moist material." The rescuer is advised to use only one hand covering it with dry cloth or gloves or some other insulating surface; he is also advised against touching the soles of heels of his shoes, while he remain in contact, as the *metal* is dangerous.

(*b*) By opening the nearest switch if that is the quickest way to break the circuits.

(*c*) By cutting the live wire by an axe or a hatchet with a dry wooden handle.

2. *To attend instantly the victim's breathing.*

First all the foreign body (tobacco, false teeth, nuts etc). if any, should be removed from his mouth by the finger of the rescuer but time should not be lost in trying to take off or loose the clothesn as "*every moment of delay is serious.*"

Then the work of resuscitation should begin the subject is stretched face down, with arms extended, and as straight forward as possible with mouth on one side so that the nose and mouth are free from breathing. The rescuer is to kneel straddling the victim's thigh and facing his head, without permitting the by-standards to crowd about and shut off fresh air. To restore artificial breathing the commission says :—

(i) "Rest the palms of your hands on the loins (on the muscles of the small of the back) with thumbs nearly touching each other and with fingers spread over the lowest ribs.

(ii) With arms held straight swing forward slowly so that the weight of your body is gradually brought to bear upon the subject. This operation should take from two or three seconds and *must not be violent* for the internal organ may be injured. The lower part of the chest and also the abdomen are thus compressed and air is forced out of lungs.

(iii) Now immediately swing backward so as to remove the pressure but leave your hands in place thus returning to the position shown in (i). Through their elasticity the chest walls spring out and the lungs are thus supplied with fresh air after two seconds swing forward again; thus repeat deliberately 12 to 15 times a minute or follow the natural rate of your deep breathing, swing forward with each expiration and backward with each inspiration.

(iv) As soon as the artificial respiration has been started and while it is being continued an assistant should loosen any tight clothing about the subjects neck chest or waist continue the artificial respiration (if necessary two hours or longer) *without interruption* until natural breathing is restored or until a Physician arrives. If natural breathing stops after being restored use artificial respiration again.

(v). Do not give any liquid whatever by mouth until the subject is fully conscious.

(vi). Give him fresh air but keep warm."

3. When natural respiration has been restored burns should be attended until proper cares are taken by the medical men. "Saturate a piece of cloth with the solution of baking Soda (one tea-spoonful to a pint of water) or it may be coated with a paste of flour and water or may be protected with heavy oil such as machine oil, transformer oil, vaseline, linseed, carron or olive oil. Cover the dressing with cotton, gauze, lint, clean waste, clean handkerchiefs or other soft cloth, held lightly in place by a bandage the same coverings should be lightly bandaged over a dry, charred burn but without wetting the burned region or applying oil to it. Do not open blisters."

Operating companies especially those who are working with so many ignorant people in India, should see that their employees are informed this or any other method of resusciation, so that if any opportunity comes to perform a service of this kind the proper method of procedure should not be neglected due to their ignorance. The great advantage of this method is that no apparatus is necessary and that it may easily be performed by any man.

There is no excuse for sacrificing lives which in most cases be saved by prompt and proper method of procedure as indicate above. In as much as a military discipline is needed in modern factories and shops so a regular drill under the direction of reliable officers should become a part and parcel of a modern electric central station, to protect the lives of employees; and the National Electric Association of New York has taken the lead in this direction and have issued a chart and a packed pamphlet for 13,000 men. Copies of the chart and booklet containing these rules may be obtained at the price of 3 and 5 cents ($1\frac{1}{4}$ and $2\frac{1}{2}$ annas) each respectively, on

application to the National Electric Light Association 29 West 39th Street New York City U. S. A.

Birendra Nath Das Gupta
Student A. I. E. E
Purdue University, U. S. A.

LITERATURE OF THE ROMANTIC AGE.

(1798—1832)

(CONTINUED FROM PAGE 337)

One peculiar feature of this Age is the appearance of woman-novelists. These writers are of no mean type, and at least one of these can match Scott, himself. The reason obviously is the fact of the spread of education, and of increasing numbers of women availing themselves of the opportunity, thus afforded.

"The novel of the century", says Thompson, "opens with a quartet of illustrious ladies." These are Francis Burney, Maria Edgeworth, Jane Austen and Susan Ferrier.

Burney, though chronologically belonging partly to the eighteenth and partly to the nineteenth century is, in spirit, wholly a nineteenth century writer. I have already spoken * of her, in connexion with the literature of the Romantic Reaction. Suffice for one to add here that it was through her that we find it borne out that it is possible to weave a story around fashionable London, not excluding its vulgarity, and yet not overstep the limit of decorum and morality. Miss Burney gave us an exact transcript of the contemporary life of London. Besides *Evelina*, her most noted work, she was the author of *Cecilia*, *Camilla*, *The Wanderer*, and one or two other works.

Maria Edgeworth is not a great novelist. In fact, her tales are little more than big stories. They are not novels, as they lack dramatic effect. But they are intensely realistic, and hence important. In *Belinda*, *Castle Rackrent* and *Absentee*, Miss Edgeworth gives us a complete picture of the Irish life and manners, by which she was surrounded. Her purpose in writing the *Moral Tales* and *The Tales of Fashionable Life* is unmistakable enough ; they were meant to warn young men and women against various temptations, which threatened them in diverse ranks of society. These novels and tales were, to quote a writer, 'characterized by ingenuity of invention, humour, and acute delineation of character, notwithstanding a tendency to be didactic and the presence of a "purpose" in most of her writings.' *Her* success in the delineation of Irish characters, was an inspiration for Scott, as regards his Scottish novels, in which he paints Scottish life.

See Collegian Vol. II. Page 340.

Jane Austen, however, was of a different calibre than her friends in the field ; and she essentially differs from Scott, in that she was master of the art of writing domestic novel. Her importance consists in the fact, observes Goldwin Smith, in his Life of Jane Austen, that "on her was bestowed though in a humble form, the gift which had been bestowed on Homer, Shakespere, Cervantes, Scott and a few others—the gift of creative power."

Miss Austen began to write when she was a mere girl ; though her first published novel was *Sense and Sensibility*, which appeared in 1811, i.e. on the thirty sixth year of her life. "Northanger Abbey was a kind of parody of the novel of mystery, a study of life at Bath, filled in with her ridiculous and delightful people. *Sense and Sensibility* (1811), *Pride and Prejudice* (1813), her masterpiece, *Mansfield Park* (1814), *Emma* (1816) and *Persuasion* (1818) form a series of close and subtle analysis of provincial life and manners, written in a style of serene irony and delicate attachment which yield one of the keenest and rarest flavours in English fiction." *

These novels do not pretend to have anything approaching to high soaring ambition. No subtle philosophy breaks in upon the reader in the midst of his interest. Her meanings are straight-forward, and do not require to be haunted up, with anything like a conscious effort. She treats of familiar or common-place things in the familiarest manner possible ; and herein she succeeds to a marvellous degree, as it would appear to a careful reader of Jane Austen's novels. He would not miss anything through want of power, but of attention. An attentive reading, not a hurried skimming would acquaint him with her delicate strokes of art. No struggling or brain-racking over complex doctrines of metaphysics, is necessary, as she has none of these ; but a sober, cool and attentive perusal is all that is required, for the clear understanding of the mysteries of the art of Jane Austen. Her style, generally, is the same throughout, and plots sustained. She did not apparently like sensational plots. Moreover, a feeling of antipathy to sentimentality runs through the mass of her writings. Of course, true and genuine sensibility s appreciated, but mock and affected sentiment was the object of her derision. Marianne, in *Sense and Sensibility* receives her creator's sympathy, because her feelings though extravagant and foolish are genuine ; and moreover, her sisterly affection goes a great way to amend for her.

Two things are specially remarkable in Miss. Austen's writings—*humour*, and *sense of proportion*. Her humour, quiet and sober, as it was, was the

* Craik.

product of a minute and careful observation of men and manners. She had a wonderful grasp of the complexity of the human character, and hence her satire was particularly effective, being at the same time, free from cynicism and vulgarity. Her sense of proportion checked her from waxing extravagant or becoming ridiculous.

Miss. Austen's view of life was far from anything like pessimistic or cynic She looked upon life, not as a stoical and unconcerned on-looker would do—being because she must needs be—but like a genial, liberal, optimistic, good soul, who accepts the evil, as well as the good, and *practically* works for the humanity. Yet, for that matter, she was no rebuting critic of human frailties. Her satire was one of the most pointed and effective. She loved, says Goldwin Smith, what deserves love, and amused herself with the foibles, the self-deceptions, and the affectations of humanity. "Refined almost to fastidiousness", continues the same writer, "she is hard upon vulgarity; not, however, on good natured vulgarity, but on vulgarity, combined at once with effrontery and with meanness of soul".

Although a romantic novelist, Miss. Austen's love and appreciation of nature was different from those of her contemporaries. She really appreciated the beauties of Nature, and she gives glowing reminiscences of her observations. But she did not give herself up to the admiration of the picturesque, in general, in the common canting phraseology of the time. Here her sense of proportion kept her in balance. Yet her description of the Sea is one of finest of the kind, and deserves never to be forgotten.

"All must linger and gaze, on their first return to it, whoever deserve to look on it at all."

Miss. Austen's novels held the mirror up to the contemporary society. Her views on religion, on the clergy are expressed in clear and unmistakable language. Her pictures of Mrs. Jennings in *Sense and Sensibility*, of Mrs. Norris in *Mansfield Park*, of Charlotte Lucas in *Pride and Prejudice* are specially edifying. By these, she shows as in what light, she considered the "match-making" "husband-hunting" women of her times. By those she showed herself, religious by instinct, yet moderate and unenthusiastic by profession; and her protest against the corrupt clergy is entered in her portraits of Mr. Collins and the like. To add one more illustration, her detestation for mercenary marriage is expressed in the example of Willoughby, in *Sense and Sensibility*.

The creatures of Jane Austen are mostly taken from the gentry. She rarely introduces the aristocracy or the lower middle class; and if she does so at all, she never gives them any prominence. This was due to her limited knowledge of the worldly affairs. She rarely stirred out of the little World in which she lived. This answers for the narrowness of compass of her works; but they are perfect in construction and elaborate in detail. At first Jane Austen found her novels neglected by the world, but she did not hold her pen, because she never entertained the idea of writing for money or for fame. She had a joy in her own work; and she loved to be busy about her own creations. She did not think it becoming to publish her name, because the times entertained prejudice against "blue-stockings," and a feeling lingered, that for a woman to write a book was to overstep the limitations of her sex; and living as Jane did, isolated from the sensible and literary world, she had no idea of how she would overcome—this unfair objection.

I shall end this weary review of the great lady by quoting from Scott and from Macaulay the encomiums severally bestowed upon Jane Austen.

Scott says, "That young lady has a to lent for describing the involvements of feelings and characters of ordinary life which is to me the most wonderful I ever met with; the exquisite touch which renders ordinary common-place things and characters interesting from the truth of the description and the sentiment is singular."

Macaulay says, "There are in the world no compositions which approach nearer to perfection."

The fourth of the quartet, referred to at the outset is Susan Ferrier, who represented the Scottish novel of manner, as Miss Edgeworth did the Irish. Susan Ferrier was a curious observer of mankind and he had an incomparable store of sarcasm, which she had in abundance. She was, moreover, given to sentiments, and this is where she differed from Jane Austen. She was the mother of three novels, *Marriage*, *The Inheritance* and *Destinity*.

I shall finish this fairly long review of the Romantic literature, by dealing with minor novelists, and with the critics and criticisms, and with essayists and essays, which are really weighty elements in the literature of our period. This, however, I keep for a future issue.

(To be continued)

AJAX.

REVIEWS
AND MINOR NOTIBES

Burke's Speeches on America, edited by A. J. F. Collins, M.A. (Oxon) [London; W. B. Clive]. *2s. 6d.*

This is a nice little edition of Burke's Speeches on the American Taxation and Conciliation with America. The notes are not exhaustive but are to the point. The Introduction dwells on some of the main points on the History of American revolution as also on the Life and Opinions of Burke.

Sketches of Rulers of India. Vols. I—IV. By G. D. Oswell, M. A. (Oxon) Principal Rajkumar College, Raipur, C. P. (Oxford University Press) Price 2*s.* net per volume.

We have received four volumes of this excellent series. Volume I embraces "the Mutiny Era and after" and deals with the life and works of Lord Dalhousie, Lord Canning, Sir Henry Lawrence, Clyde and Strathnairn, Lord Lawrence, Lord Mayo, John Nicholson and Sir Henry Havelock. Volume II—The Company's Governors, Lord Clive, Warren Hastings, Sir Thomas Munro, Sir John Malcolm, Monstuart Elphinstone, Sir Charles Metcalf, Sir James Thomason & John Russel Colvin. Volume III—The Governors-General and Dupleix,—Marquess Cornwallis, Marquess Wellesley, Marquess of Hastings, Earl Amherst, Lord William Bentinck, Earl of Auckland, Viscount Hardinge and Dupleix and the French. Volume IV.—The Princes of India and Albuquerque—Asoka, Babar, Akbar, Aurangzeb, Madhava Rao Scindhia. Haidar Ali and Tipu Sultan, Ranjit Sing and Albuquerque. The series is some what like the Rulers of India Series. In each volume the author has given a learned Introduction.

Handbook of Geography Vol. II. By A. J. Herbertson, M.A. ph. D. (London: Thoman Nelson & Sons) Price 4s. 6d.

The author is too well known in his field to require any introduction at our hands. This volume deals with Asia, Australia, Africa & America in a manner which as the author says is intermediate between any Elementary School Geography and such standard authorities as Mill's International Geography." There are several special features in the book—the main feature being the method of comparison and contrast which the author has so largely used with advantage. The Physical features of the continents are generally scantily treated in text books. The present author has made this part of the description of each continent continuous, so that the student may understand the relatious of the various parts of the skeleton before studying the circulations and coverings of the Earth's surface. The political and especially the commercial side of a country is specially dealt with.

A Course of Elementary Practical Physics by H. V. S. Shorter. Part I. (Mechanics, Hydrostatics) 2*s.* Part II. (Heat and Light) 3*s.* [Oxford, Clarendon Press.]

This Course of Elementary Practical Physics is compiled on a novel method. On every experiment oral questions are set which would enable the teacher to explain the subject while the students are actually performing the experiments. Full instructions are given for writing note books and on the whole this would be an invaluable guide to our junior students.

Chambers' Supplementary Readers:—We have received the following: A Cavalier of Fortune by Escot Lynn 1*s.* The Water-Babies by Charles Kingsley (8*d*). Greyling Towers by Mrs. Molesworth (8*d*), Selections from Hakleuyt rendered into Modern English by H. A. Treble, M. A. (1*s*).

These readers are intended for students of the upper classes of secondary Schools and may safely be recommended for our High school Students.

Marmaduke Merry the Midshipman by W. H. G. Kingston. (Chambers' Standerd Authors) 8*d*.

This is one of the series of cheap Editions of standard classics eminently suitable for use in schools.

New Junior French Course by G. A. Roberts M. A. University Tutorial Press Ltd). 2*s.* 6*d*.

This book provides a year's course in French for boys of the ages of 12 to 15. It serves the purpose of the Junior Locals. It covers the full requirements in grammar parsing and compostion.

Presidency College Addresses (1908-1912) by H. R. James M. A.

This is a reprint of the Addresses delivered to the Students of the Calcutta Presidency College by their Principal Mr. James. As Mr. James says in the preface they were not designed for publication but they are printed mainly for two reasons. "One is that" as Mr. James says "fore see they will some day have a little value as human, I might say, historic documents;" the other and more immediate and practical reason is that owing to the want of suitable hall, it was not possible for all the students of the College to be present,when the addresses were spoken.

SCIENCE NOTES.

Stability of Aeroplanes

The problem of the automatic stability of aeroplanes may be regarded as solved—so at least the President of the French National Aerial League. M. Quinton, announced at a meeting attended by M. Poin-

care. For some time past the military authorities have been testing an invention of M. Moreau's who has been studying the question for the last six years. According to M. Quinton, M. Moreau has flown with a military passenger for 35 minutes without touching any governing part of his machine other than for rise or descent. In connection with the interesting Aero Exhibition which is being held at Olympia, the King has sent a telegram to Mr. Grahame White congratulating him "on designing an aeroplane strictly for military purposes."

No more cinematograph fires

A process has just been invented which, it is claimed, will revolutionise the moving picture business, and what is more to the point, make cinematograph fires impossible. The invention, which is that of a French man named Dupuis, is a departure from the present principle of projecting pictures by transmitted light. The transparent ribbon of cellulois gives place to a ribbon of mirror like silvered and fire-proof paper. The small photographic images printed on this paper in the usual manner are projected on to the screen by the light reflected from them. In spite of the more complex course taken by the illuminant to be no great diminution in brilliancy, the lamps at present in use giving a picture far superior in lighting to those commonly shown. Pieces of this new cinematograph ribbon have been exposed to the full light of powerful arc lamps for several minutes at a time. All that happened was a shrivelling of the image and its metallic support and a slight scorching of the fire-proof paper. There was no outburst of flame, and not the slightest sign of danger. The only point that appeared to require further research was the eliminator of a tendency to brittleness, and consequent flaking on the edge of the metallic support. The strength of the paper seemed beyond dispute, and it is stated that one 'film" can be used 100 times becoming unfit for service.

Washing clothes by Electricity

Considerable interest has been aroused among laundrymen in the last few months by a process of washing clothes by means of electricity, by which the time and soap necessary are greatly reduced. The National Laundry Machinery Company, Dayton, O., has recently issued patents on a greatly improved washing machine. It consists of an electrode-equipped machine wherein clothes may be washed, bleached and disinfected by means of a current of electricity of any standard voltage. A terminal electrode is placed on the inner side of each end of the outer receptacle of the the machine, and to these the service wires are attached. To each head and to all partitions of the inner revolving cylinder, known as the "wheel", a circular electrode is attached. This is made circular in order that some portion of it will at all times be immersed in the washing fluid. Each inner electrode consists of two flat rings one on each side of the partition or on each side of the cylinder head, bolted together, the bolts serving as electrical connections and as a means of holding the electrodes in position. These inner electrodes have no electrical connections other than the washing or electrolyzing fluid. Therefore, one ring of each electrode acts as a cathode and the other ring as an anode. Since on a cylinder of only one compartment there would be two pairs of inner electrodes, there would be three electrochemical reactions taking place instead of only one reaction were the inner electrodes not used. If only two terminal electrodes were used, and at a voltage of 110 a current of two amperes were passed through there would simply be the chemical reaction in the washing fluid caused by two amperes. But with the inner electrodes, at a voltage of 110 and two ampers there would be the same reaction in each compartment between each pair of electrodes. Therefore, the total amount of chemical reaction would be equivalent of six ampers in one compartment, but with an expenditure of 220 watts as in the former case. This not only makes an economical arrangement, but a more efficient one regarding the results obtained through the gases liberated.

Use of asphalt in antiquity

That asphalt was known to the ancients is a well-attested fact, its use as a binder for masonry in Babylon being in point, but of its use other than this we know nothing. Strabo tells us that as early as 2,000 B. C. the streets of Babylon were paved, and so too, presumably, were the great roads leading out from the many gates of that city Babylon was situated in the alluvial plain of Mesopotamia and its building material was almost entirely clay, either as such or in the form of bricks. It seems rather doubtful that these latter were used to pave the street at that early date. Asphalt was abundant and much used in building operations, and it does not seem improbable that that it was utilised to improve the streets.

SPORTING.

CRICKET.

Harrison Shield (Calcutta) Final.

This two-days' fixture in the final of the above Inter Collegiate Competition was commenced on the Presidency College ground on Monday, and was concluded on Tuesday, when the home team won by the big margin of five wickets and II runs.

Scores :—

Metropolitan College—				
1st Innings	...	...	...	119
2nd Innings	...	...	...	152
				271
Presidency College—				
1st Inning	...			165
2nd Inning	...			117
				282

HOCKEY.

Alderson Hockey Tournament (Poona)

The final of the Alderson Hockey tournament were played yesterday In the British section a tie resulted between the Royal North Lancs, and Dorsets, neither side having scored, even with extra time.

In the Indian section the 11cth Mahrattas beat the 12th Pioneers on stroke of time by three goals to two. General Sir A. Barrett presented the cup to the victors in the latter game.

FOOTBALL.

Murray Tournament. Lucknow

The Royal Scots came out victorious in the final engagement.

TENNIS.

The Bengal Singles Championship.

THE final for the "Singles" Championship in connection with the Bengal Tennis Tournament was played at the Eden Gardens, Calcutta, on the 8th instant when C. Carroll, of the Bengal-Nagpur Railway, met Z, Shimizu, a Japanese player of some repute. Although the play was by no means up to English championship from it was nevertheless an interesting display, and in the end Shimizu won by three sets to one.

(4—6, 7—5, 6—1, 6—0.)

The Educational Policy of the Government of India.

His most gracious Imperial Majesty the King-Emperor in replying to the address of the Calcutta University on the 6th January, 1911, said :

'It is my wish that there may be spread over the land a network of schools and colleges from which will go forth loyal and manly and useful citizens able to hold their own in industries and agriculture and all the vocations in life, and it is my wish too that the homes of my Indian subjects may be brightened and their labour sweetened by the spread of knowledge with all that follows in its train, a higher level of thought, of comfort and of health. It is through education that my wish will be fulfilled, and the cause of education in India will ever be very close to my heart.'

DIVERSE CONDITIONS.

2. The Government of India have decided with the approval of the Secretary of State to assist the local Governments by means of large grants from the Imperial revenues, as funds become available to extend comprehensive systems of education in the several provinces. Each province has its own educational system, which has grown up under local conditions and become familiar to the people as a part of their general well-being. In view of the diverse social conditions in India there cannot in practice be one set of regulations and one rate of progress for the whole of India. Even within the provinces there is scope for greater variety in the types of institutions than exists today. The Government of India have no desire to centralise provincial systems or to attempt to introduce a superficial uniformity, still less do they desire to deprive local Government of interest and initiative in education. But it is important at interval to review the educational policy in India as a whole. The principles bearing on education in its wider aspects and under modern conditions, and on the conceptions of the orientals and on the special needs of domiciled community were discussed at three important conferences of experts and representative non-officials held within the last two years. These principles are the basis of the accepted policy. How far they can at any time find local application must be determined with reference to local conditions.

RECENT PROGRESS.

3. The defects of the educational systems in India are well-known and need not be re-stated. They have been largely due to want of funds. Of late years there has been a real progress in removing them. In the last decade the total expenditure from all sources on education has risen from 4 crores to nearly 7½ crores. The progress has been especially great since Lord Curzon's Government introduced large measures of educational reform. In the last four years the number of those under instruction has increased from about 5¼ to 6½ millions. Again, the formerly

crushing weight of examinations has been appreciably lightened ; a commencement has been made in the reform of university and college organisation and the grants from public funds to private institutions have almost doubled in the past nine years. These facts speak for themselves. Nor must the great benefits which education has conferred on India be ignored or minimised. Criticism based on imperfect analogies is often unjust. It is not just, for instance, to compare the Indian systems still for the most part in their infancy with the matured systems of the modern western world or to disregard the influences of social organization and mentality. Again, the common charge that the higher education of India has been built upon a slender foundation of popular education—and that its teaching agency is inefficient is one that might have been levelled against every country in Europe at some period of its history. India is now passing through stages taken by other countries in their time.

FORMATION OF CHARACTER.

4. In the forefront of their policy the Governof India desire to place the formation of the character of the scholars and the under-graduates under tuition. In the formation of character the influence of home and the personality of the teacher play the larger part. There is reason to hope in the light of acquired experience that increased educational facilities under better educational conditions will accelerate social reform, spread female education and secure better teachers. Already much attention is being given to religious and moral education in the widest sense of the term, comprising, that is, direct religious and moral instruction and indirect agencies, such as monitorial or similar systems, tone, social life, traditions, discipline, the betterment of environment, hygiene, and that most important side of education, physical culture and organised recreation.

RELIGIOUS AND MORAL INSTRUCTION.

5. The question of religious and moral instruction was discussed at a local conference held in Bombay and subsequently at the Imperial conference held at Allahabad in February, 1911. Grave differences of opinion emerged as to the possibility or advantage of introducing direct religious instruction into schools generally and apprehensions of difficulty in the working of any definite system were put forward. Doubts were also expressed as to the efficacy of direct moral instruction when divorced from religious sanctions. In the matter of moral teaching, however, the difficulties are undoubtedly less than in the case of religious teachings. The papers laid before the conference indicate that not a little moral instruction is already given in the ordinary text-books and in other ways. The Government of Bombay are engaged upon the preparation of a book containing moral illustrations which will be placed in the hands of teachers in order to assist them in imparting moral instruction. Excellent materials for ethical teaching are available in the Mahabharata, the Ramayana, portions of Hafiz, Sadi, MaulanaRum and other classics in Sanskrit Arabic, Persian and Pali. The Government of India while bound to maintain a position of complete neutrality in matters of religion observe that the most thoughtful minds in India lament the tendency of the existing systems of education to develop the intellectual at the expense of the moral and religious faculties. In September, 1911, they invited local Governments other than the Bombay Government to assemble local committees in order to consider the whole question. Such committees are still at work in some provinces. For the present the Government of India must be content to watch the experiment and keep the matter prominently in view. Enlightened opinion and accumulated experience will, it is hoped, prove a practical soution to what is unquestionably the most important educational problem of the time.

HOSTELS AND SCHOOL BUILDINGS.

6. There has been real progress of late years in the provision of hostels. In the last decade the numbers both of hostels and of resident male students have nearly doubled and now stand at over 2,200 and over 78,00 , respectively. The Government of India desire to see the hostel system develop until there is adequate residential accommodation attached to every college and secondary school in India. But a hostel of itself will not achieve the desired end unless effective means are adopted for guiding students and assisting them in their work and in their recreation. Already in some first class institutions in the country admirable arrangemen s have been made on European lines to secure the full benefits of the residential system. Again, it is reassuring that traditions are growing up, that meetings of old boys are held that debating and literary societies are becoming more common. All these require help which will in many cases best be organised in connection with the hostel system. Much has also been done of late to improve school buildings, but a large number of thoroughly unsuitable, not to say, mean, squalid and insanitary buildings, still remain. Buildings have to be

designed upon sanitary lines, with a view to avoid overcrowding and facilitate the maintenance of discipline. The Government of India hope that the time is not far distant when educational buildings will be distinguished as the most modern and commodious buildings in the locality, and scholars in India will have the advantages in this respect of scholars in the west The influence for good of clear, well-arranged buildings with the concomitant domestic discipline can scarcely be exaggerated.

THE CLAIMS OF HYGIENE.

7. The claims of hygiene are paramount not only in the interests of the children themselves, though these are all important, but also as an object-lesson to the rising generation. Hitherto want of funds and the apathy of the people have been responsible for the comparatively small attention paid to hygiene in some provinces. A simple course of instruction in hygiene is prescribed at some period of the school course, but the lessons are often of too formal a type, and are not connected with the life of the pupil and fail to form his habits or to enlist his intelligence. In after life, in the struggle against disease in some areas, there is a general inspection of school premises by a medical authority, but it is believed that little is done for the individual inspection of school-children and that medical advice has not always been enlisted in regard to the length of the school day, the framing of curriculum and such matters. The Government of India commend to local Governments a thorough enquiry by a small committee of experts, medical and educational, into school and college hygiene. The scope of the enquiry will, no doubt, vary in different parts of India, but the following seems to be important matters for investigation: (1) The condition of school hours, hostels and other places where pupils reside from the point of view of sanitation; (2) the professional examination of building plans from the hygiene point of view: (3) the introduction of a simple and more practical course of hygiene—whether it should be a compulsory subject in the various schemes of school-leaving certificates and whether it should be recommended to universities as part of their matriculation examination; (4) the inspection, where possible, of male scholars with special references to infectious diseases, eyesight and malaria, : (5) the length of the school day, home studies and the effect upon health of the present system of working for formal examinations; (9) the requirements in the way of recreation grounds, gardens, gymnasia, reading rooms, common-rooms etc; (7) the inspecting and administrating agency required; (8) the possibility of co-operation with existing organisations, and (9) the provision of funds.

THREE CARDINAL PRINCIPLES.

8 Three other cardinal principles of policy may here be stated:—(1) The steady raising of of the standard of existing instructions should not be postponed to increasing their number when the new institutions cannot be efficient without a better trained and better paid teaching staff; (2) the scheme of primary and secondary education for the average scholar should steadily, as trained teachers become available, be diverted to more practical ends *e g*, by means of manual training, gardening, out-door observations, practical teaching of geography, school excursions organised tours of instruction, etc., and (3) provision should be made for higher studies and research in India so that Indian students may have every facility for higher work without having to go abroad.

FACILITIES FOR RESEARCH.

9. The provision of facilities for research cannot be postponed in almost any branch of science and the arts, in philosophy, history geography, language, literature economics, sociology, medicine, public health, agriculture biology, geology, botany and in all the sciences applied to industry. Not to particularise more closely, there is a wide untrodden field awaiting research. Among the essentials are good libraries, laboratories and collections, ample leisure and freedom in study, systematic collaboration of professors and students, an atmosphere engendered by the simultaneous working of many minds on numerous but interdependent branches of research. Only when they know the methods of research by which the knowledge they are to impart is secured and tested are teachers fully equipped for their work in the more advanced stages of education.

ELEMENTARY EDUCATION.

10. The propositions that illiteracy must be broken down and that primary education has in the present circumstances of India a predominant claim upon the public funds, represent an accepted policy no longer open to discussion. For financial and administrative reasons of decisive weight the Government of India have refused to recognise the principle of compulsory education, but they desire the widest possible extension of primary education on a voluntary basis. As regards free elementary education the time has not yet arrived when it is practicable to dispense wholly with fees without injustice to the many villages which are waiting for

the provision of schools. The fees derived from those pupils who can pay them are now devoted to the maintenance and expansion of primary education and a total remission of fees would involve to a certain extent a more prolonged postponement of the provision of schools in villages without them. In some provinces elementary education is already free and in the majority of provinces liberal provision is already made for giving free elementary instruction to those boys whose parents cannot afford to pay fees. Local Governments have been requested to extend the application of the principle of free elementary education amongst the poorer and more backward sections of the population; further than this it is not possible at present to go.

GUIDING PRINCIPLES.

11. For guidance in the immediate future with the necessary modifications due to local conditions the Government of India desire to lay down the following principles in regard to primary education :—

(1) Subject to the principle stated in paragraph (2) supra, there should be a large expansion of lower primary schools teaching the three Rs. with drawing knowledge of the village map, nature study and physical exercises.

(2) Simultaneously upper schools should be established at suitable centres and lower primary schools should, where necessary, be developed into upper schools.

(3) Expansion should be secured by means of board schools except where this is financially impossible when aided schools under recognised management should be encouraged. In certain tracts liberal subsidies may advantageously be given to Maktabs, Patshalas and the like which are ready to undertake simple vernacular teaching of general knowledge. Reliance should not be placed upon venture schools, unless by subjecting themselves to suitable management and to inspection they earn recognition.

(4) It is not practicable at present in most parts of India to draw any great distinction between the curricula of rural and of urban primary schools, but in the latter class of school there is a special scope for the practical teaching of geography, school excursions, etc., and nature study should vary with the environment. And some other form of simple knowledge of the locality might advantageously be substituted for the study of the village map. As competent teachers become available a greater differentiation in the courses will be possible.

(5) Teachers should be drawn from the boys whom they will teach. They should have passed the middle vernacular examination or been through a corresponding course and should have undergone a year's training. Where they have passed through only the upper primary course and have not already had sufficient experience in a school a two years' course of training is generally desirable. This training may, in the first instance, be given in small local institutions, but preferably, as funds permit, in larger and more efficient central normal schools. In both kinds of institutions, adequate practising schools are a necessary adjunct and the size of the practising school will generally determine the size of the normal school. As teachers left to themselves in villages are liable to deteriorate there are great advantages in periodical repetition and improvement courses for primary school teachers during the school vacations.

(6) Trained teachers should receive not less than Rs. 12 per month (special rates being given in certain areas) They should be placed in a graded service and they should either be eligible for a pension or admitted to a provident fund.

(7) No teacher should be called on to instruct more than fifty pupils, preferably the number should be 30 or 40 and it is desirable to have a separate teacher for each class or standard.

(8) The continuation schools known as middle or secondary vernacular schools should be improved and multiplied.

(9) Schools should be housed in sanitary and commodious but not in expensive buildings.

VARYING CONDITIONS.

12. While laying down these general principles the Government of India recognise that in regard to primary education conditions vary greatly in the different provinces. In the old province of Bengal for instance, where there is already some sort of primary school for a little over every three square miles of the total area of the province, the multiplication of schools may very well not be so urgent a problem as an increase in the attendance and an improvement in the qualifications of the teachers In some parts of India, at the present time, no teacher in a primary school gets less than Rs. 12 a month. In Burma all conditions are different

and monastic schools are an important feature of the organisation. Different problems again present themselves where board schools and aided schools respectively are the basis of the system of primary education. Nor must it be supposed that the policy laid down in these general terms for the immediate future limits the aspirations of the Government of India or the local Governments. Indeed, the Government of India believe that the day is not far distant when teachers in primary schools will receive considerably higher remuneration, when all teachers will be trained and when it will be possible to introduce more modern and elastic methods in primary schools.

VERNACULAR CONTINUATION SCHOOLS.

13. Vernacular continuation schools are the only entrance to more advanced study which does not demand acquaintance with a foreign language and it is in them that competent teachers for primary schools will be prepared. Technical and industrial progress also is likely to create numerous openings for men with a good vernacular education. In certain provinces owing to the popularity and cheapness of English education these institutions have declined but in the whole of India, in the last decade, the number of schools has increased from 2,135 to 2,666 and that of their scholars from over 1,77,000 to close on 2,57000. The Government, of India believe that these schools will become much more popular and useful when they are placed on a sound footing. They also think that it would be an advantage if an advanced vernacular course could be provided at selected centres for students desirous of becoming teachers in these continuation schools.

14. In some provinces special classes have been opened in secondary English schools for scholars who have been through the whole course at a vernacular continuation school in order to enable them to make up the ground in English. There is much experience to the effect that scholars who have been through a complete vernacular course are exceptionally efficient mentally. The Government of India recommend arrangements on the above lines to all local Governments and administrations which have not already introduced them.

A PROGRAMME OF EXTENSION.

15. It is the desire and hope of the Government of India to see in the not distant future some 91,000 primary public schools added to the 1,00,000 which already exist for boys and to double the 4½ millions of pupils who now receive instruction in them. For purposes of the present calculation a sum of Rs. 375 per annum may be taken as a rough approximation of the probable average cost of maintenance of a primary board school. This figure provides for two teachers, one on Rs. 15 and the other on Rs. 12 per month and Rs 4 per month for the purchase of books and stationery, petty repairs, prizes and for necessary contingencies. This is, however, only an average figure for the whole of India. In India as a whole the average cost of a board or municipal school is at present Rs. 315 per annum. In Bombay the average cost of a primary school under any kind of management is now about Rs 437, but this figure includes the cost of the higher classes, which in some other provinces are classed as middle or secondary vernacular classes.

EDUCATION OF GIRLS.

16. The education of girls remains to be organised. In 1904 the Government of India remarked that peculiar difficulties were encountered in this branch of education owing to the social customs of the people, but that, as a far greater proportional impulse is imparted to the educational and moral tone of the people by the education of women than by the education of men, a liberal treatment had been accorded for girls in respect of scholarships and fees. This policy has been continued. Efforts have been also made not without success to bring education through the agency of governesses within the reach of *purda* ladies, to increase the number of ladies on the inspecting staff and to replace male by female teachers in Government and aided schools. The number of girls under instruction has risen from 4,44,470 in 1901-02 to 8,64,363 in 1910-11. But the total number still remains insignificant in proportion to the female population The Government of India believe, however, that in certain areas there are indications of a swiftly growing demand for a more extensive education of girls.

GENERAL CONSIDERATIONS.

17. The immediate problem in the education of girls is one of social development. The existing customs and the ideas opposed to the education of girls will require different handling in different parts of India. The Governor-General in Council accordingly hesitates to lay down general lines of policy which might hamper local Governments and administration and has preferred to call for schemes from each province, but recommends the following principles for general consideration; (*a*) the education of girls should be practical with reference to the position which they will fill in social life; (*b*) it should not seek to imitate the education suitable for boys nor should it be dominated by examinations; (*c*) special attention should be paid to hygiene and the surroundings of school-life; (*d*) the services of women

should be more freely enlisted for instruction and inspection ; and (*e*) continuity in inspection and control should be specially aimed at.

18. The difficulty of obtaining competent schoolmistresses is felt acutely in many parts of the country. In this connection it has been suggested that there is a large opening for women of the domiciled community who have a knowledge of the vernacular and who might be specially trained for the purpose.

SECONDARY EDUCATION.

19. The importance of secondary English and in particular of high school education is far-reaching. Secondary education of one grade or another is the basis of all professional or industrial training in India. The inferior output of secondary schools invades colleges and technical institutions and hinders the development of higher education. At the Allahabad conference the directors of public instruction unanimously regarded the reform of secondary English schools as the most urgent of educational problems. The improvement of secondary English education has for some time occupied the attention of the Government of India and the local Governments and it is hoped in the near future to remedy many defects of the present system.

20. In the last nine years the number of secondary schools has increased from nearly 5,500 to over 6,500 and the number of scholars from 6,22,000 to 9,00,000. The policy of Government is to rely so far as possible on private enterprise in secondary education. This policy laid down in the dispatch of 1854 was restated and amplified by the Education Commission of 1882, which while doubtful as to how far the process of withdrawal on the part of Government should be carried, agreed that whatever degree of withdrawal from the provision of education might be found advisable there should be no relaxation of indirect but efficient control by the state. The admixture of private management and state control was again emphasised in the resolution of 1904. To this policy the Government of India adhere. It is dictated not by any belief in the inherent superiority of private over state management but by preference for an established system, and above all by the necessity of concentrating the direct energies of the state and the bulk of its available resources upon the improvement and expansion of elementary education. The policy may be summarised as the encouragment of privately managed schools under suitable bodies, maintained in efficiency by Government inspection, recognition and control and by the aid of Government funds.

21 Some idea of the extension of private enterprise may be gained by the reflection that of 3,852 high and middle English schools only 286 are Government institutions. These figures, however, cover many types of schools, the most efficient to the least efficient. Admirable schools have been and are maintained by missionaries and other bodies, but the underlying idea of the grant system, the subvention of local organised effort, has not always been maintained. Schools of a money-making type, ill-housed, ill-equipped and run on the cheapest lines have in certain cases gained recognition and eluded the control of inspection, Schools have sprung into existence in distinctive competition with neighbouring institutions. Physical health has been neglected and no provision has been made for suitable residential arrangements and play-fields. Fee-rates have been lowered, competition and laxity in transfer have destroyed discipline, teachers have been employed on rates of pay insufficient to attract men capable of instruction or controlling their pupils. Above all the grants-in-aid have, from want of funds, often been inadequate. No fewer than 360 high schools with 80,247 pupils are in receipt of no grant at all and are maintained at an average cost of less than half that of a Government school, mainly by fee-collections. Especially do these condition prevail in the area covered by the old provinces of Bengal and Eastern Bengal and Assam—a result due, no doubt, to the rapid extension of English education beyond the ability of the local Governments to finance it. In Bengal and Eastern Bengal, the number of high schools is greater than in the rest of British India put together and the cost of their maintenance to public funds is proportionately less than a third of the cost prevailing in other provinces. A special inquiry showed that out of some 4,700 teachers in privately-managed high schools in these areas about 4,200 were in receipt of less than Rs. 50 a month, some 3,300 of less than Rs. 30 a month, while many teachers of English and classical languages drew salaries that would not attract men to superior domestic service. The great variations in conditions in different parts of India point to the difficulty of making any but the most general statements about the results of private enterprise and the special measures that are needed to assist it to perform efficiently its work in the educational system.

SECNDARY EDUCATION POLICY.

22. Subject to the necessities of variation in deference to local conditions the policy of the Government of India in regard to secondary English schools is :—

(1) to improve the few existing Government schools by (*a*) employing only graduates or

(1) trained teachers ; (*b*) introducing a graded service for teachers of English with a minimum salary of Rs. 40 per month and a maximum salary of Rs 400 per month ; (*c*) providing proper hostel accommodation ; (*d*) introducing a school course complete in itself with a staff sufficient to teach what may be called the modern side with special attention to the development of an historical and a geographical sense ; (*e*) introducing manual training and improving science teaching ;

(2) to increase largely the grants-in-aid in order that aided institutions may keep pace with the improvements in Government schools on the above mentioned lines and to encourage the establishment of new aided institutions where necessary ;

(3) to multiply and improve training colleges so that trained teachers may be available for public and private institutions ;

(4) to found Government schools in such localities as may, on a survey of local conditions and with due regard to economy of educational effort and expense, be proved to require them.

GRANT IN AID RULES.

23. The Government of India also desire that the grant-in-aid rules should be made more elastic so as to enable each school which is recognised as necessary and conforms to the prescribed standards of management and efficiency to obtain the special assistance which it requires in order to attain the fullest measure of utility. As larger grants become available, and as the pay and the personal of the teaching staff are improved it will be possible for the Inspecting Officer to concentrate his attention more and more upon the general quality of instruction. Full encouragement can then be given to improved and original methods of teaching in force, and gradually the grant-earning capacity of an institution will come to be judged on grounds of general efficiency and desert rather than by rigid rules of calculation.

REMODELLED SCHOOL COURSE.

24. The introduction of a school course complete in itself and of a modern and practical character, freed from the domination of the matriculation examination, was recommended in the first instance by the Education Commission of 1882. In some provinces, and particularly in Madras, real progress has been made towards the accomplishment of this reform.

The figures for 1901-02 and 1910-11 are :—1901-2—School Final (candidates)—Madras and Coorg 194 ; Bombay 1162 ; Central Provinces 52 ; Matriculation (candidates)—Madras and Coorg 76,82 ; Bombay 3,731 ; United Provinces 1,704 ; Central Provinces 473. 1910-11—School Final (candidates) Madras and Coorg, 7,317 ; Bombay 1360 ; United Provinces 946 ; Central Provinces 538 ; Matriculation (candidates)—Madras and Coorg 782 ; Bombay 3,766 ; United Provinces 2,206 ; Central Provinces 72. In other provinces the school final examination has not yet been established except for special purposes. The total number of candidates in 1910-11 for the school final examination or leaving certificate in all British Provinces was 10,161 ; that of candidates for matriculation was 16,952 ; secondary English school leaving certificate 25.

EXAMINATIONS.

The principal objects of the school examination are adaptability to the courses of study and avoidance of cram. In those Provinces in which a school final examination or school leaving certificate has not been introduced the Government India desire that it should be introduced as soon as practicable. They suggest for the consideration of Local Governments and Administrations further development of the system in regard to the character of the tests by which certificates are granted at the end of the school course. Before proceeding further, however, they re-state and emphasise the three principles laid down by the Indian Universities Commission in paragraph 170 of their report :—

(1) The conduct of a school final or other school examination should be regarded as altogether outside the functions of a university.

(2) It would be of great benefit to the Universities if the Government would direct that the matriculation examination should not be accepted as a preliminary or full test for any post in Government service. In cases where the matriculation qualifies for admission to a professional examination the school final examination should be substituted for it.

(3)—It would be advantageous if the school final examination could, in the cases of those boys who propose to follow a university career, be made a sufficient test of fitness to enter the University. Failing this, the best arrangement would appear to be that the matriculation candidate should pass in certain subjects in the school final examination and be examined by the Uni-

versity with regard to any further requirements that may be deemed necessary.

EXTERNAL EXAMINATIONS.

26. The value of external examination cannot be overlooked. It sets before the teacher a definite aim and it maintains a standard, but the definite aim often unduly overshadows instruction, and the standard is necessarily narrow and, in view of the large numbers that have to be examined, must confine itself to mere examination achievement without regard to mental development or general growth of character. On the other hand the draw-backs of external examinations are becoming more generally apparent, and attention was prominently drawn to them in the report of the Consulative Committee on examinations in secondary schools in England. They fail especially in India in that they eliminate the inspecting and teaching staff as factors in the system; that they impose all responsibility upon a body acquainted but little (if at all) with the school examined; that they rely upon written papers which afford no searching test of intellect, and no test at all of character or general ability and that they encourage cram.

COMBINATION REQUIRED.

27.—A combination of external and internal examinations is required. The Government of India consider that in the case of a school recognised as qualified to present candidates for a school-leaving certificate a record should be kept of the progress and conduct of each pupil in the highest classes of the schools and that the Inspector should enter his remarks upon these records at his visits and thus obtain some acquaintance with the career of each candidate during the two or three years before examination. These records, together with the marks obtained by pupils at school tests, would be valuable and would not only supplement a test conducted partly through written papers on the more important subjects of instruction but also orally; and with regard to the pupil's past career the oral examination would be conducted by the inspector in consultation with members of the staff. A large increase in the superior Inspecting Staff would be required to work a system of this kind, and safeguards would be necessary to protect teachers from undue influences.

The Government of India are prepared to assist with such grants as they may be able to afford the introduction of any such system which may be locally practicable.

The school-leaving certificate systems of Madras and the United Provinces fulfil many of the requirements of the reform in view, but their present characteristics may not be found altogether suitable in other areas. Some such system, however, as has been sketched above adapted to local conditions, would, it is believed, be most beneficial and do more than anything else to foster a system under which schools would be taught to think for themselves instead of being made to memorize for examination purposes Next to the improvement of the pay and prospects of teachers which must accompany and even precede its introduction, this is, perhaps, the most important reform required in secondary English education.

TECHNICAL EDUCATION.

28.—No branch of education at present evokes greater public interest than teachnical and industrial instruction. Considerable progress has been made since 1904. Existing educational institutions have been overhauled and equipped for new courses. Scholarships tenable in Europe and America have been established. Thanks to the generosity of the Tata family' seconded by liberal financial aid from the Government of India and His Highness the Maharaja of Mysore an Indian Institute of Science, designed upon a large scale, has been established at Bangalore. It was thrown open to pupils in 1911. The establishment of a Technological Institute at Cawnpore for the chemistry of sugar manufacture and leather, for textiles, and for acids and alkalis, has been sanctioned. Industrial schools have been opened in several provinces. Altogether, the number of technical and industrial schools has risen since 1904 from 88 to 218, an' the number of pupils from 5,672 to 10,535.

29. The system of technical scholarships tenable abroad is still on trial, and a committee is examining the whole question in England. It is not always easy to arrange suitable courses of study, and study abroad puts the pupil at a disadvantage in removing them from the environment of Indian trade conditions. From the information available, it appears that, of 73 scholars sent abroad, 36 have not returned to India while 18 are at present industrially employed in India.

(To be continued).

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AND PROGRESS OF INDIA

CALCUTTA, MONDAY, MARCH 31, 1913

A gifted Princess

A notable Princess of Nepal—Rani Taradebi—is now in Calcutta. Although she has been in Bengal only for a few months she has become already very popular for her active encouragement of popular enterprise. She is a gifted lady and in culture, charm of manner and accomplishments she may stand well to represent Oriental Womanhood. According to the opinion of experts she is a profound Sanskrit Scholar; her devotion to the cause of learning is really commendable. She retains all that is best in Oriental Culture. During her short stay in Calcutta she had made a profound impression on those whom she met in this City, of these we may mention Her Excellency Lady Hardinge, Her Excellency Lady Creagh, The Right Reverend Dr. Copleston Lord Bishop of Calcutta, Sir James Du Boulay, the Consul generals for Austro-Hungary, Japan, Greece and America, Sir Lawrence Jenkins the Chief Justice of Bengal, the Nawab of Murshidabad, the Maharajas of Darbhanga, Burdwan, Kasimbazar, Nashipur, Kakina, Dinajpur and Nuddia, Kumar Raja of Bobbili (Madras), Maharani of Sikkim, Maharaja of Tippera, the Honble. Mr. Justice Chaudhuri, and many public men in Bengal.

Few of our readers may know that Princess Taradebi has been the central figure in a tragedy in Nepal. Her husband General Prince Jugut Jung Rana Bahadur the eldest son of His Highness the late Maharaja Sir Jung Bahadur, G. C. B., G. C. S. I. etc., of Nepal, was assassinated along with his son Jodh Pertab Jung Rana Bahadur as the result of an intrigue for power. The present king of Nepal is the grand-nephew of General Jugut Jung.

The Rani is on her way to England which she intends visiting after seeing the historic places of India. A book is being compiled narrating the events of her life as also the autobiography of the late Maharaja Sir Jung Bahadur and of her husband the late General Prince Jugut Jung.

Sir Ashutosh Mukerjee's Convocation Address

SIR ASHUTOSH MOOKERJEE'S speech at the Convocation of the Calcutta University is a notable utterance setting forth in forcible language the work done by the University after the passing of the Indian Universities Act of 1904. Really of all the other Indian Universities Calcutta has done most to utilise the opportunities given it in taking far-reaching measures for the improvement of the University. Their endeavours were to carry out the Indian Universities Act of 1904 and the provisions of the New Regulations. "In the performance of this duty" says the Vice-Chancellor in a very modest but effective way "we have perhaps not shown ourselves particularly clever and resourceful, and the result may not have come up to our own or the world's expectations; but I feel convinced that nobody who scrutinises without bias or prejudice the measures taken by us, will venture to deny that they have been prompted throughout by a loyal and dutiful spirit." We are glad to note that the Vice-Chancellor is not opposed to the foundation of new centres of learning of the teaching and residential type, but he is right in thinking that it would be deplorable if the claims of Calcutta were set aside in favour of other new centres of learning.

Sydenham Memorial

A largely attended representative public meeting was held on the 17th March at the Bombay Town Hall, to record its high appreciation of the distinguished and valuable services rendered by H. E. Lord Sydenham during his term of service as Governor of Bombay. Sir Basil Scott, presided. He paid a high tribute of praise to Lord Sydenham's achievements and accomplishments and said that the idea of erecting a statute to Lord Sydenham should not be lost sight of and hoped the city would soon be able to erect a statue to add to its beauty.

Sir Jamsetji Jijibhoy moved the first resolution "that this public meeting of citizens desires to place on record the valuable services of the retiring Governor and that in commemoration of services this public meeting resolves that the College of Commerce to be established in Bombay should be called after His Excellency and that subscriptions raised be applied to building and equipment of that College."

Sir Henry Procter in seconding it said that Lord Sydenham's absolute devotion to duty was commendable. It had a two fold object, one, efficiency of his administration and the other the welfare of all classes of people.

This was supported by the Hindu Baronet Sir Chinubhai Madhowlal and carried unanimously.

A strong and influential Committee was appointed to make arrangements for the purpose of the memorial and entertainment. It was announced that funds amounting to two laks and twenty six thousands were already promised and much more is expected.

Gurukula Anniversary and the Sarasvat Sammilan

THE Gurukula anniversary was held on the 19th and the following days. Thousand of persons attended; the sittings of the Sarasvat Sammilan were presided over by Professor Satyendra Nath Sen of the Calcutta City College. The Brahmacharis displayed a wonderful command over Sanskrit, speaking it with admirable ease and surprising fluency. Professor Satyendranath in his presidential address paid a rich tribute to the learning of Pundit Gangadhar and to the profound scolarship and magnificent character of Swami Dayanand. The president referred to Gurukula as an institution pregnant with grand possibilities, quoted Sir James Meston and appealed for co-operation in the work of propagating Sanskrit learning.

The Government of Bengal and the Bangiya Sahitya Parishad

IN consideration of the work done by the Bangiya Sahitya Parishad in the departments of Indian history and Bengali literature and of the educational value and the worth of its publications His Excellency the Governor in Council has been pleased to direct that an annual grant of Rs. 1,200 shall be given in aid of the Society's publication fund and that two hundred copies of the quarterly journal of the Parishad will be purchased for distribution to schools and colleges and inspecting officers. We congratulate the Government of Bengal upon their action in this matter. The Bangiya Sahitya Parishad has been doing very useful work ever since its establishment The Government grant is conditional upon the Parishad being able to spend twice as large a sum for publication purposes out of its own resources. We trust that there will be no difficulty in raising this sum having regard to the work the Parishad is doing.

THE UNIVERSITIES

Calcutta University

Annual Convocation, March 15, 1913.

The Annual Convocation of the Calcutta University for conferring Degrees was held at the Senate House Saturday afternoon. There was a large attendance of ladies and gentlemen. The Ex-officio fellows, the Honorary Fellows and the Ordinary Fellows of the University assembled in academic costume, in the Senate House at 2-30 p.m. and at 2-40 they proceeded to the entrance Hall and took their places in processional order. Five minutes later Sir Ashutosh Mukerjee the Vice-Chancellor, the members of the Syndicate and the Registrar received His Excellency Lord Carmichael, the Rector, at the foot of the staircase and conducted him to the Entrance Hall where he was received by the Fellows. His Excellency having robed a procession was formed in the following order: The Registrar: Members of the Syndicate (arranged two and two in order of seniority): His Excellency the Rector: the Hon. the Vice-Chancellor: Ex-officio, Honorary and Ordinary Fellows (arranged two and two in order of seniority). His Excellency was then conducted to the "dais," where he took his seat with Sir Lawrence Jenkins on his right and the Hon'ble the Vice-Chancellor and the Lord Bishop of Calcutta on his left. Sir Gooroodas Bannerjee, the Hon. Dr. Deba Prosad Sarbadhikari and the Deans of the Faculties also occupied their seats on the "dais." His Excellency having declared the convocation open the Vice-Chancellor gave away the diplomas. There were over fifteenhundred graduates this year who were made up as follows: M.A's, 165; B.A's, 759; M.Sc's, 35; B.Sc's, 168; B.T's, 37; D.L's, 1; B.L's, 302; M.S's 1, M.B's 37; L.M,S's 31 and B. E's 16. Of these, however, about six hundred actually were present to receive their degrees.

VICE-CHANCELLOR'S SPEECH.

His Excellency then called upon the Hon. the Vice-Chancellor to address the Convocation. Sir Ashutosh Mookerjee said:—

Your Excellency, Ladies and Gentlemen,—My first words on this occasion must be expressive of the profound regret of all members of the University at the unavoidable absence of His Excellency the Chancellor. During the last twenty-five years, successive annual Convocations, except in one solitary instance, have been regularly held under the presidency of our Chancellor; and we have been so accustomed to his presence at these ceremonial functions that even under ordinary circumstances we would miss him with the keenest and the most widespread disappointment. On the present occasion, however, the special reason for his absence serves immensely to intensify our grief. We all knew that he would have been in our midst to encourage us by his kindly words, but for the dastardly outrage on his person,—a crime justly denounced as unsurpassed for its atrocity, which deeply stirred the minds of all ranks and sections of the Indian People, and evoke the indignation and abhorrence of men, women and children of all creeds and classes. What more striking and gratifying proof is needed of the genuine personal interest His Excellency takes in our work, than the fact that even when prostrated by physical suffering, he expressed a strong desire to be in our midst and he has been compelled with much reluctance and regret to abandon the idea, only upon the emphatic advice of his medical attendants. Let us express our deepest gratitude to a wise and beneficient Providence that His Excellency has been so mercifully spared to us, and let us fervently hope that we may long continue to enjoy the high privilege and inestimable advantage of his guidance and advice. I have just received a telegram from His Excellency the Chancellor which I shall read for your information. It is as follows:—

To Vice Chancellor,

Calcutta University.

I deeply regret that my recent injuries forbid my presence as your Chancellor at to-day's Convocation, when it had been my earnest hope to attend, though I know that my place will be most happily filled by His Excellency Lord Carmichael. I wish all success to the Convocation and it is my heart felt prayer that the grants which my Government have been able to provide for the pursuit of higher studies and for other needs may further the work of the University. I rejoice to think that in pursuance of the wishes expressed by His Imperial Majesty the King Emperor it has been found possible to make a liberal provision this year also of some 3¾ crores of rupees for various kinds of educational institutions. I confidently hope that the Calcutta University will be conspicious in inculcating an education moulded on broad, useful lines, and in further advancing the cause of true learning. To the young men who take their degrees to-day I tender my warm congratulations. The future of India is bound up with their own future, so let them go forth with high ideals and high courage. May happiness attend on their future.

Viceroy.

During the last twelve months the record of our academic work shows unabated progress. I deem myself particularly fortunate that, on this occasion, I am not called upon to deplore the death of any of our active workers, though we have

been deprived, by retirement, of the services of two of our valued members, Dr. Phillott who was a tower of strength to us in the cause of the promotion of Arabic and Persian learning, and Mr. Justice Caspersz who took an unfailing interest in the reform of legal studies in this University. A well deserved tribute, however, is due to the memory of three of our Honorary Fellows, who have recently passed away, full of years and honours—Mr. Umeschandra Dutt, a scion of a gifted family and an unassuming scholar of varied literary culture, readily assisted, during many years, our Board of Studies with his extensive and accurate knowledge of the Classical and modern languages of Europe. Rai Kshetranath Chatterjee Bahadur had made his mark as an able and experienced Engineer, and his advice was eagarly sought and highly esteemed by the members of the Faculty to which he belonged. The Rev. Paton Begg, one of our most careful and conscientious teachers and examiners, rendered valuable service as Principle of the London Missionary Society's Institution and ably sustained its reputation as a thoroughly efficient place of instruction. The names and services of these distinguished men, who worked strenuously for our advance in days now long part, will not be readily forgotten by generations to come, and their bright example will serve to stimulate the activity of many a toiler in the same field.

Five New Chairs.

During the last year our endeavours to develop the University as a teaching Institution have been successful beyond the expectation of our most enthusiastic friends. Since we last met in Convocation, five new Chairs, have been created, two by the Government of India, two by the munificence of a private individual and one by the University itself. Of the first two, established with the aid of funds supplied by the Government of India, one we have been graciously permitted by His Majesty the King-Emperor to associate with his revered name. The occupant of this Chair will devote himself to the advancement of philosophical knowledge, and, the first Professor nominated is one of the most erudite graduates of this University, Dr. Brajendranath Sil. The next professorship, for which also the funds have been supplied by the Government of India, we have been permitted to associate with the name of our beloved Chancellor, and a distinguished Frenchman, Dr. Frechet, Professor in the University of Poitiers, has been chosen as the first Hardinge Professor of Higher Mathematics in the University. The third chair, which has been founded by the University, will be devoted to the fascinating subject of Ancient Indian History and Culture, and we are peculiarly fortunate in that we have been able to secure the services of Dr. George Thibaut, who stands in the foremost rank of scholars distinguished for strikingly original work in the field of Sanskritic studies. The fourth and fifth Chairs we have been able to establish by the princely munificence of Sir Taraknath Palit whose name will be handed down to posterity as the greatest benefactor of an Indian University. One of these Chairs will be devoted to Chemistry and the other to Physical Science; but no appointments have yet been made, as the problem of the establishment of a University Laboratory which is now engrossing our attenrion, must first be satisfactorily solved. The three Professors already appointed will shortly enter upon the discharge of their duties; but, meanwhile, we have been particularly fortunate in that we were able to secure as Readers two scholars of worldwide reputation. The last twelve months also have witnessed a marked and rapid development of Post-graduate teaching, which, it is confidently expected by all true friends of higher education in this country, will have the most far-reaching and beneficial results. We have now arranged for systematic courses of lecturers for M.A. students in English, Sanskrit, Pali, Persian, Arabic, Comparative Philology, Philosophy, History, Economics and Pure Mathematics. It is a matter for the sincerest congratulation that we have an enthusiastic body of students genuinely anxious to avail themselves of the facilities afforded by the institution of these lectures; our classes are full, indeed, in some subjects we have as many as a hundred students; and there are ample indications already that next session there will be a large accession to the strength of these Postgraduate classes. I desire emphatically to repudiate the suggestion that the institution of these lectures implies undesirable competition between the University and its best affiliated Colleges. We fully recognise the excellent work hitherto accomplished by some of our strongest Institutions in the way of Post-graduate teaching, and we are justly proud of their achievements which have served to enhence our reputation. At the same time, we cannot fail to realise that there is a widespread demand for Post-graduate teaching, which cannot be adequately met by any affiliated institution, however strongly staffed and well-equipped it may be, which has also to bear the heavy burden of under-graduate teaching of a large body of students, The development of Post-graduate teaching must consequently continue to engage our earnest attention for years to come, and if the scheme under proper guidance and control, succeeds as every well-wisher of the Uuiversity trusts it will, we shall have justified our existence as an Institution whose proud motto is the Advancement of Learning, and we

shall also have effectively solved the question of an adequate supply of well-educated teachers, lecturers and professors for the numerous schools and colleges within our jurisdiction. The last twelve months have also witnessed the completion of the splendid building which we owe primarily to the munificence of the Maharaja of Durbhanga; but before the lapse of the year, we have made the unwelcome discovery that the new building is inadequate for our rapidly expanding needs; though we have been able to find accommodation for our growing Library, for our office with its increasing records, for our M. A. Classes and for the University Law College with its extensive Library, the need for additional accommodation is already keenly felt. During the last twelve months, also, the University has made rapid progress towards the erection of a hostel for the students of the Uuiversity Law College, and we hope to have one hundred and fifty students in residence on the premises at the commencement of the next session. It is a matter of the deepest regret, however,that visible progress has not yet been effected in the erection of hostels for the other colleges in the city, and to all interested in the welfare of our students, it is still a matter of grave concern that they continue in many instances to live under very unfavourable condidions. I have no desire to minimise the practical difficulties in the way of the realisation of our ideal, but I do consider it a matter of vital importance that the obligations of the State in this respect should not be under-estimated. It would be a lamentable mistake to suppose the foundation of new centres of intellectual activity was likely, in the near future, to reduce materially the pressure on the great colleges of Calcutta and would thus justify a less favourable treatment in their case. On the other hand, it is undeniable that vigorous and sustained effort must be made for the solution of the question of residence of the students of this great city. We see on all sides unmistakable signs of fresh life and activity. The number of the students who seek admission to our colleges has steadily increased, and in fact, has strained to the utmost the capacity of the best and strongest of our institutions. The number of candidates at all our examinations has steadily grown. Our advanced students have exhibited a highly commendable desire to proceed to the highest degrees and have eagerly competed for the most valuable prizes awarded on the results of original research. The signs of development are evident on all sides; in the Faculties of Arts and Law, we have made ourselves directly responsible for the instruction of 1,800 Post-graduate students; the University has thus loyally and steadily endeavoured to advance the sacred cause entrusted to its care. But, notwithstanding the most vigorous efforts on the part of all concerned in the performance of this great and difficult task, doubts have been felt and sometimes expressed whether we are on the right path at all.

The Policy of the University.

In the course of the last year, questions have been addressed to me more than once as to what was the 'policy' of the Calcutta University. The questioners, in some cases, were persons evidently animated by sympathy for our University and genuinely desirous to be informed as to the meaning and drift of the various measures taken by us; in other cases, the enquiry appeared to me—unless my ear was rather too sensitive—to have a kind of sarcastic sub-tone; and in other cases, again, the antagonistic feeling that prompted it could not be mistaken. However this may be, the question so directly asked is entirely fair and unobjectionable. Our friends are entitled to be enlightened as to the motives and purposes of the steps which they may not fully understand; and it is disirable that our enemies—if, indeed, there be any such persons—should be given no opportunity to misinterpret and misrepresent our doings. I, therefore, gladly avail myself of the present opportunity to give to the members and friends of our University here assembled a brief exposition of the meaning and aims of our activity.

The policy of the University of Calcutta, ever since the introduction of the new Regulation framed in agreement with the Indian Universities Act, has been to comply as far as feasible with the demands which the Regulations formulate. In the performance of this duty, we, perhaps, have not shown ourselves particularly clever and resourceful, and the result may not have come up to our own or the world's expectations: but I feel convinced that nobody who scrutinizes, without bias or prejudice, the measures taken by us, will venture to deny that they have been prompted throughout by a loyal and dutiful spirit. We have striven to the best of our capacity to carry out a policy laid down for us by the highest authorities.

Work Done.

The first duty which devolved on the University under the new order of things was to overhaul the entire existing system of University education, and its preliminary stage, secondary education. To that end, it undertook, in the first place, no less a task than a searching enquiry into the condition of all the schools, seven hundred in number, in Bengal Proper, Western and Eastern, Bihar, Orissa, Assam and Burma, which are recognised by the University, that is, enjoy the privilege, a highly prized privilege, to present candidates at the Matriculation Examination. With the friendly co-operation of the departments of Public Instruction, the University had

each school submitted to a careful and detailed inspection bearing on all essential points of school organisation, management and discipline. On each inspection, a full report was drawn up by the Inspector and carefully considered by the Syndicate, who then proceeded to pass orders on it, pointing out in detail what improvments and reforms the school concerned was expected to make in order to retain the privilege of recognition. Next to this, there came a great task of a more strictly academical nature, and presenting much greater intrinsic difficulties, namely, the task of revising the extent of affiliation enjoyed by the Colleges, nearly sixty in number, under the jurisdiction of the University and scattered all over the country within its territorial limits. This work was undertaken by an officer of the University of high standing and educational attainments, specially appointed for the purpose; with him there were associated in each instance one or more special Inspectors, selected with a view to the individual requirements of the case. The full and often highly interesting reports, drawn up by these Inspectors, give a vivid picture of the state of collegiate education under the University of Calcutta at the time when the Indian Universities Act came into operation. Each of these documents was minutely scrutinized by the Syndicate, and on this basis the question of the standard and extent of affiliation which the College would be allowed to retain, was determined. It may suffice to say that practically the Syndicate had to fight a kind of battle with each College, a battle often long protracted and affording to the authorities of the College splendid opportunities for the display of obstinate valour. There is not a College in our jurisdiction which has not since 1907 been moved to take extensive measures towards its general improvement—on all sides, teaching staffs have been strengthened, libraries have been replenished, laboratories have been erected or newly equipped. In more than one case, an Institution has undergone a veritable re-birth. I complete this rapid and necessarily highly incomplete sketch of such of our labours as may be termed reformatory or corrective, with just a reference to one more extremely onerous task which we, in obedience to the new regulations, have taken upon ourselves, namely, the disposal of all those endless cases in which students who for some reason or other have fallen short of the prescribed attendance at lectures claim to be admitted to University Examinations. This special task implies a very heavy addition to the work of the Syndicate, but we carry it on steadily, knowing that thereby we powerfully check irregularities and strengthen the hands of Principals in their effort to maintain order and discipline. I may add, in conclusion of this part of my remarks, one word as to the reforms we have made in the teaching of law in this province. In no other department has there been a change equally conspicuous and fundamental. Our present arrangements are not exactly ideal. I, for my part, foresee great possibilities of furture developments in this field of our activities. But I feel sure that every one acquainted with our law teaching as it was five years ago and as it is now, will admit that a fairly ordered world has risen out of chaos.

The Universities Act.

I have often wondered that the principles laid down as to the functions of the University in the Indian Universities Act of 1904 have met with such scant recognition. I do not mean most genuine form of recognition only, which expresses itself in practical measures, but also appreciation of a purely theoretical type. The Indian Universities Act was the outcome of an extensive and searching enquiry into the higher educational needs of the country, and that enquiry itself had been due to the fact that the existence of such needs was felt widely and deeply. Even now, after the lapse of nine years, one may without hesitation affirm that the principles embodied in the Indian Universities Act very accurately represented the ideas held at that time by a considerable body of thoughtful men in this country as to what the Universities should do to meet those needs. There is good reason to suspect that a great deal of the opposition, active or passive, with which the operations of our University have met in recent years, is traceable to the fact that the essential features of the New Universities Act of 1904 were curiously enough forgotten as soon as announced. The fact is that whatever steps other than those of a purely corrective character our University has taken in the course of the last seven years, have been singly and solely determined by the desire to carry out, as far as we could, the policy so clearly and unambiguously formulated in the Indian Universities Act. I will not enquire what other Universities have done in this direction, but for Calcutta I may claim with confidence that it has at any rate grasped the principles of the new policy and taken some steps to carry them out in practice. We have, in the first place, framed Regulations bearing on the appointment of University Lecturers, Readers and Professors. We have in the second place, taken a wide survey of the existing conditions of higher teaching, proceeded to introduce as many actual improvements and to make as many actual advances as our limited means permitted. The special conditions prevailing at Calcutta immediately suggested a plan which probably could not be carried out in any other Indian University. We have here a number of first grade Colleges, with many highly

qualified teachers, but there are among them two only, where the staffs are strong enough to undertake Post-graduate work in some branches at least in addition to the under-graduate teaching. But each one of all these Colleges has at least some Professors whose attainments qualify them to take part in M.A. work; and the idea, therefore occurred to us to combine all those teachers in groups, strong enough to undertake each of them M.A. teaching in a particular subject. This was done, and in addition we took the further important step to strengthen those groups of teachers by associating with them special University Lecturers, not attached to any College but lecturing to University students only and receiving remuneration from University funds. This combined plan has so far been eminently successful. The lectures are attended by a body of more than five hundred students, many of whom would have been inevitably excluded from all M.A. instruction if we had to rely on the Colleges alone. Our scheme of Post-graduate teaching, however, is still in its beginnings and may no doubt be more thoroughly organised and effectively strengthened if additional funds were provided for the purpose.

SPECIAL TEACHING.

With regard to special teaching of the most advanced type, we have since 1908 appointed a number of University Readers who have delivered courses of lectures in special subjects. Eight of these courses have been actually delivered; four have been published and the others are in course of publication. Among these Readers there have been men of the highest eminence; I need mention only the two last ones, whose services we are able to secure in the course of the present session —Dr. Forsyth who had before his audience entirely novel results obtained by himself in an extremely difficult though interesting department of Pure Mathamatics, and Dr. Oldenberg who gave a masterly sketch of the method employed and results obtained by European scholars in domain of old Indian grammatical and mythological research. The stimulating effect of the presence and the teaching of such eminent men cannot be questioned, and we trust that the institution of Readers will in future be more widely developed. On the other hand, we are aware that we would be of even greater value to have, at our University, teachers of the highest type, either practically permanent, or at any rate, engaged for a number of years, so that continuity of teaching and influence might be secured. This is the reason why we are anxious to be placed in a position to appoint University Professors who may stay with us for lengthened periods, deliver lectures on a systematic plan, and remain in continuous contact with the best students in each department. The need of a body of such men numerous enough to cover, as it were, not, indeed, the whole ground of higher learning and research, but a considerable section of it for the cultivation of which our University is already prepared—is obvious; but—I hardly need remind to you of the financial difficuity! All the same, our efforts in this direction have been a measure successful, and a hopeful begining has been made, even within the last twelve months. This is an outline of what we so far have been able to accomplish in the line of higher true University teaching. Our policy herein has been the policy of the Indian Universities Act of 1904; that will continue to be our policy: we do not, at present at any rate, feel the need of a better policy. What we do feel we grievously need, is Funds, and again Funds; but we are not without hope that they will come to us in due season.

THE TEACHING FACULTIES.

I trust I have said enough to indicate the general lines on which, if circumstances are not adverse, we intend to move in the near future. We should be entitled to speak of a Teaching University on a modest scale, at any rate, if we were to possess a body of University Professors composed of at least one representative for each of all those branches of study which are contemplated in our present M. A. Courses—I do not mean only those courses which are actually taught, but all those for which theoretical provision is made in our knowledge each of which would require two representatives at least, as for instance, Mathematics and History. Our requirements in this respect have to some extent been already definitely formulated. As soon as our University Chairs are increased in number and they become fairly representative of different branches of learning, the University Professors should be appointed to form the future Teaching Faculties of the University. These Faculties might be constituted by teachers only, with the Professors as Members Ex-officio, invested possibly with the right to add to their numbers, in proportion which can hardly be defined at present, by cooptation from the ranks of the University Lecturers. Each Faculty—there would, in all probability, be two or at most three only for a long time to come—would determine the course of Postgraduate study in the various branches within its cognizance. The highest teaching in each branch would be undertaken by the special Professor, who would at the same time direct and superintend the work of the University Lecturers in his department. If this can be realised, our University may, within a measurable time, possess groups of higher teachers whose position and functions would be in a fair degree at any rate analogous to those of the teachers in the famous Universities of the West. I naturally refrain from further details or

from forecasts as to the ultimate possible development of the modest organisation I contemplate; it will be wise, if for the present we confine ourselves to plans of work which appear to be actually attainable within a not too distant future.

There in one special point in connection with the University Professorships on which I claim your indulgence to dwell for a moment, and thus to emphasise what I said last year on the subject. Some patriotic friends have told me very distinctly that these Professorships should, as a matter of course, all go to Indian scholars. My answer was and ever will be that these Professorships should, as a matter of course, go to the best qualified men whom we may be able to engage on the terms that it is in our power to offer. The principle of nationality is to be deprecated altogether in matters of higher learning and research, and we here in India are truly not yet in a position to be more exclusive, chauvinistic in this respect than the great nations of the West.

A REPLY TO CRITICS.

I have a suspicion that some of those critics and enquirers who appear to doubt whether the Calcutta University has a policy at all, possibly find fault, not so much with our general ideas and aims and the schemes devised by us to carry them out, as with the character of our mode of procedure. I have, in fact, heard it asserted that however good our intentions may be, our methods sadly lack consistency and and continuity; we are in substance charged with acting, or at any rate appearing to act, rather at random. The proper plan, these our advisers suggest, would be to work out first a complete scheme of University extension, as consistent and as logical as possible, and then to carry it out methodically, observing due sequence and order, and thus making it quite easy to any observer to follow and approve our proceedings. To such friendly advisers or critics, I can only reply that those responsibile for the development of the University are not altogether unaware of what our procedure may leave to desire in point of regularity and consecutiveness. The fact is that we are not permitted to work under ideal conditions. Such conditions can no dubt be easily imagined. Let us conceive that some powerful magician were all at once to appear on the scene and address us somewhat as follows: "I know, my friends, that it is your great wish to establish a true model teaching residential University in or near Calcutta Allow me to help you. Here I present you with an extensive plot of ground, well-watered and laid out in beautiful gardens and shady groves. Observe, scattered all over the place those manifold groups of palatial buildings, fitted to serve residences of Princes and of the Rulers of the land. All these I freely place at your disposal for the use of your Professors, Tutors and Students. Do not moreever be troubled about expenses. You have access to a gold mine from which you may draw half a million pounds a year, without apprehension that the source of supply will be exhausted. You find in the treasury ten million pound for initial expenses. Take possession of it all and prosper."—Let such an offer be made and I promise you that we shall at once set to work vigorously and methodically to build up a perfect University; but alas, such pleasant things do not happen, at least not in Calcutta. We are compelled to make the best of what we have—limted means, unfavourable surroundings, unsuitable buildings, intermittent opportunities. I will not complain, for, on the whole, we have so far not been unfortunate. But, how, under the actual circumstances, I ask, should we have managed to proceed, otherwise than in fits and starts and in a kind of possibly fantastic zigzag line? For a building to house our University Library and the University Law College, we were indebted to the fortunate circumstances that six years ago our distingushed Honorary Fellow, the Maharaja of Darbhanga, conceived the noble idea that he would apply a portion of his immense wealth to the substantial aid of the University of Calcutta, and, it was a still more fortunate accident that the University of Patna at that time did not exist even in the imaginations of people. That we have a University Chair of Economies is due to the recognition by Lord Minto of the special importance of the study of that science for India. Our present beloved Viceroy, Lord Hardinge, was moved, in an auspicious moment, to listen to an application for the foundation of Chairs of Mathematics and Philosophy. It was, again, a lucky accident, as far as we men can judge, that Sir Tarak Nath Palit, not many months ago, determined to devote his entire fortune to the promotion of scientifiic research in our University; and, finally, our students recently had the benefit of a course of stimulating lectures by Professor Oldenberg, because it so happened that this distinguished savant conceived the plan of a visit to India in the course of the last cold season. We are truly thankful for all these unexpected gifts and fervently hope that the long chapter of lucky accidents is not yet closed. But I trust it is evident why, living and working under such conditions, we do not advance on entirely scientific lines. All we can promise to do is to make good and speedy use of every opportunity to carry some what higher the stately building which we are engaged in rearing, even at the risk that the pile may continue, perhaps for a long time, to look odd and unsymmetrical.

Reactionary Critics.

I feel bound to touch upon another point before I conclude this Address. The critics, whom so far I have endeavoured to satisfy, do not mean, if I understand them rightly, to oppose all progressive action on the part of the University. We have often heard it asserted, in the course of the last year, that after all there is no urgent reason to strike out new lines in our activity, that Calcutta has done very well under the old system and might with advantage be left to continue under it. Reactionary critics of this type I would meet with two weighty considerations. I am not, in the first place, prepared in any way to admit that those higher developments of University life and work towards which we are striving are not really needed or not urgently required. Reflect on the general intellectual situation of the country. We, no doubt, at the present time possess a fairly strong class of highly educated and truly cultured men. Our Universities have produced many generations of graduates, and all of them are, to some extent, acquainted with literature of the highest type, and are in general touch with modern thought bearing on some at least of the great departments of human life and activity. Considerable numbers of our graduates have entered the learned professions and have acquitted themselves with credit, while not a few amongst them have risen to great eminence and are fully worthy to take rank even with the best of those sons of Great Britain whose life and work are devoted to the service of India. But something more is imperatively needed. India, we cannot conceal the fact from ourselves, contributes hardly anything at the present moment towards the progress and extension of knowledge: in this respect, it does not rank even with the smallest of the civilised countries of the West. Our Colleges and Universities, doubtless, help to preserve and impart knowledge and learning, but they do exceedingly little to augment and extend it. What dangers, I ask, could there possibly be involved even in the most rapid and sudden higher development of our Universities? Modern Western knowledge, with all its potentially revolutionary and unsettling tendencies, has been with us now for more than half a century; and the action of higher developments would, almost to a certainty, be not incentive but restrictive and corrective. Apart from the grave financial difficulty, what serious objections could there be raised against the sudden simultaneous creation of twenty or even fifty University Chairs? It will not seriously be asserted that our students are not capable of higher things; on the contrary, there is a great deal of ability of high order, there is much eagerness and ambition, there is true intellectual curiosity. In this University, at any rate, the M. A. Classes are literally crowded; why, then, apart again from the question of funds, should our young men be denied privileges and opportunies regularly enjoyed by their contemporaties in every civilised country in the West? It truly does not appear desirable that, in all futurity, every young Indian, who has higher intellectual aspirations, should be compelled, at the expense of much money and great risk and inconvenience, to resort to Oxford or Cambridge, where after all he may be denied access to a College, or to stray even further, possibly to a Continental or American University.

A Critical Time.

But, and this is my second point, we here at Calcutta truly realise that the time for academical discussions as to the scope of the task before the Universities and the fitness of our students for higher teaching is really past and gone. When, ten years ago, the Universities Commission was engaged on an elaborate enquiry into the educational condition and needs of India, there was much excited feeling, and people talked about the great crisis that had arisen in the life of our Universities. But, at the preseut moment, I feel very vividly, and I have no doubt that many of you will feel with me, that the crisis of 1903 was nothing compared to the crisis which now hangs over the head of all the Indian Universities, and more particularly of the University of Calcutta. At that time, Calcutta like all other Institutions of the same rank, was called upon to remedy obvious defects in its organisation and working, and, in certain no doubt very essential points, to extend, its aims and functions; but nothing then appeared to threaten the proud position it had held for so long a time, in the front rank, if not at the head of all Indian Universities. Since that time, extraordinary changes, unexpected and impossible to anticipate, have taken place in the intellectual, or, let us say, in the educational atmosphere. In more than one quarter it has all at once been discovered that the existing Universities cannot be usefully called upon to effect reforms and enter on higher functions; that these Institutions are already quite incapable of fruitful development, and, hence, should at the utmost be allowed to move on, on the old lines; while, for all higher purposes, entirely new Universities are to be called into life. The call is, on one side, for national Universities, on another side, for true teaching and residential Universities. The existing Institutions are openly or tacitly condemned as non-national, non-teaching, non-residential, and are evidently cossidered so hopelessly inefficient that any attempt to raise them to a higher status would be labour wasted. I do not feel called upon to analyse and criticise all these novel schemes, much less to examine the policy which underlies them. I refer to them only

as conveying to us here at Calcutta an emphatic warning that we must forth-with reconsider our entire position and be prepared to take needful action. Neither the members of the Indian Universities Commission of 1902 nor the framers of the Indian Universities Act of 1904, nor, in fact, the wisest among people interested in education at that time saw very far into the future. They were all unaware that an entirely new spirit was abroad, and, that the old Universities which were called upon to mend their ways, would, before long, be imperiously summoned to justify their very existence, notwithstanding the fact that the new statute distinctly aimed at their reconstruction and reorganisation as teaching and residential Institutions. But, at the present moment, there would be no excuse for our failure to recognise the situation; the dangers that threaten us have assumed a very definite shape. Calcutta, indeed, has all along bestirred itself and taken timely action; reforms have been effected, ideals have been formulated, and, in many instances, realised in practice; we are, therefore, not altogether unready to hold our own. But it is evident that we have to be much more vigilant and energetic in the immediate future than we have been in the past. It is now little more than a year that the City of Calcutta lost the proud privilege it had enjoyed for more than a century as the Capital of the great Indian Empire, as the residence of the Supreme Representative of our Gracious King-Emperor. We, the members of the Calcutta University, were at one with all the people of this City and of this Province in regretting our great common loss, and I ventured, in the course of my address last year, to give to that feeling some restrained expression. But beyond that we had no desire to go, for we are conscious that a corporation, whose special function it is to look after higher education and the promotion of learning, has no call to pass judgment on measures prompted by considerations of high administrative and political expediency. Quite different is the question which concerns and agitates our minds to-day. We, the members of the University of Calcutta, have, indeed, no intention whatever to oppose ourselves to the foundation of new centres of high education and learning, either outside or inside our Province; we recognise that the needs of the country in that direction are constantly expanding and that new means may be required to satisfy them and we are fully prepared to meet fair competition. But we ardently expect and emphatically demand that rival Institutions should not, by artificial means, be enabled to snatch from us in a brief moment a position to which we have risen by the steady work and sustained effort of half a century. Calcutta may, after all, confidently expect that its past services to the cause of education and knowledge should meet with ready recognition—not that idle recognition which confines itself to a hollow vote of thanks and a polite assurance of esteem, but that only genuine form which expresses itself in active help and sympathy, enabling the recipient to advance his work and realise the aspirations he cherishes.

The pressing circumstances of the time have moved me to dwell to-day principally on higher developments of University work, for it is essential that we should quite clearly appreciate for what further aims beyond the sphere of our present activity we mean to prepare ourselves. But I do not underestimate the importance, I may say, the supreme importance of that part of our teaching University which is actual, I mean our affiliated Colleges. They will ever be, as they always have been in the past, the Institutions on whose strength and efficiency the ultimate success of the University as a whole will depend. It would be idle to ask for the most advanced special teaching and the encouragement of research, if our Colleges did not povide numbers of young men well grounded and trained in habits of industry and regularity. We have I am glad to say, no reason to be dissatisfied with the condition of our affiliated Colleges, though I feel they still require to be substantially aided and developed.

Fellow DR. CULLIS has been appointed an Ordinary Fellow of the Calcutta University.

Burmese in Matric BURMESE is added to the list of Second Languages prescribed for the Matriculation Examination of female candidates.

Allahabad University

Senate Meeting, March 14, 1913.

THE ANNUAL MEETING of the Senate was held on Friday March 14, at 4-30 P.M., Dr. Sunder Lal presided. The Registrar reported that Government sanction has been obtained regarding the affiliation of the following Colleges: —(*i*) Victoria College of Science, Nagpur, up to the D Sc. standard in Physics and Chemistry, with effect from July, 1913; (*ii*) M. A. O. College, Aligarh, up to the M. Sc. standard in Physics for two years, with effect from July, 1913; (*iii*) Agra College, Agra, up to the M. Sc. standard in Zoology for two years, with effect from July, 1913.

Affiliations

The B. Sc. Regulations were amended as under. At the Examination for the Degree of Bachelor of Sciences every

B. Sc. Regulations.

candidate shall be examined in English and any one of the followine groups:

A.	Mathematics, Physics, Chemistry.	D.	Chemistry, Physics, Zoology
B.	Chemistry, Zoology, Botany.		
C.	Physics, Zoology, Botany	E.	Chemistry, Physics, Botany,

Provided that those candidates who have not taken Biology for the Intermediate Examination shall not be allowed to offer any group containing Zoology or Botany or both.

Mr. William Jesse then proposed that a Faculty of Commerce be constituted and that the following alterations in the University Regulations be made:—In chapter III—In regulation 1, in the first line to substitute "five" for "four", to eliminate the word "and" in the third line, and to add after "Medicine" the words "and the Faculty of Commerce." In regulation 2, after sub-clause 3 (*d*), to add—(*e*) the Faculty of Commerce shall not be less than eight. In chapter IV—in regulation 4, to delete "VI Commerce" and in regulation 4 (*a*), to alter the wording as follows: —"The Faculties of Medicine and Commerce shall each elect from its own members as many boards of studies as it may think proper". The resolution was carried by a majorty.

Faculty of Commerce

The most important resolution was the one proposed by Dr. Zia-ud-din Ahmad. It ran thus: —Regulation 4, chapter XV of the University Regulation be amended to read as follows:—Every candidiate for the B. A. degree shall be required to show a competent knowledge of three distinct branches of study:—1. English. 2. Any two of the following branches:—(*a*) Classical Languages, (*i. e.*, Latin, Greek, Hebrew, Arabic, Persian, or Sanskrit). (*b*) Mathematics. (*c*) Philosophy. (*d*) Political Economy. (*e*) History.

The B. A. Course

In moving the resolution Dr. Zia-ud-din said that the present courses tended to encourage cram and to force a student to take up a subject for which he had absolutely no taste. The presence of any of these in the class inevitably lowered the general teaching of the class and filled it with undesirable students. That was a serious difficulty in the success of the classes for languages or Mathematics. Eighteen months ago when he moved the resolution it was adjourned on the ground that a Congress was going to be held in London which might formulate something about the subject. That too was now over. Many objections that could have been valid then were no longer so.

After a prolonged discussion the motion was adopted by a majority, 24 voting for and 21 against.

THE HINDU UNIVERSITY

THE TOTAL AMOUNT realised up to the first fortnight of March is Rs. 20,67,813-0-6. This shows that the collections during the first fortnight of March have been meagre.

While the smaller donations are coming in little by little, there is again a lull in the payment of the larger ones. The deputation consisting of the Hon'ble Maharaja Sir Rameshwar Singh Bahadur, K. C. I. E. and the Hon'ble Pandit Madan Mohan Malaviya and others have just, returned after a seven week's sucessful tour in the course of which the States of Nabha (in the Panjab), Bikanir, Jodhpur, Udaipur and Indore (in Rajputana) and Bombay and Baroda were visited and handsome promises aggregating about 11½ lakhs were secured, and subscription lists are still kept open. The total promised thus exceed Rupees 80 lakhs now, while the collections are only a little over a fourth part of the amount Until and unless the sum of fifty lakhs is actually in the hands of the Society, the dream of a Hindu University at Kashi cannot materialise into shape. Let all friends and supporters of the movement therefore realise their sacred obligation in the matter and be up and doing. Nothing great has ever been achieved without the necessary sacrifices.

The Moslem University.

THE MOSLEM UNIVERSITY Committee having met at Lucknow on the 22nd March considered the article published in the "Aligarh Institute Gazette" of the 5th February last over the signature of Nawab Vikar-ul- Mulk. After considering the statements of some of its members and other gentlemen who had taken part in the deliberations which resulted in the appointment of this Committee it resolved that the allegations in the article were unfounded. The Committee understands that a statement over the signatures of several who took part in the aforementioned deliberations would shortly be published replying categorically to the said allegations and charges.

The Aligarh Controversy

The Committee also considered the letter of Mr. Mazharul Haque resigning his membership of the Committee.

The Committee decided to forward a reply to

that letter through the Secretary and to publish it in due course. The Committee further considered the resolutions passed at a few meetings held in some parts of the country in connection with the aforementioned article and letter and felt that it would be undesirable to proceed any further with the task entrusted to it by the resolution appointing it. It, therefore, regretfully resolved that the Foundation Committee be informed of this decision with a view that they might take such steps as might seem proper to them.

Societies & Academies

THE BENGAL LITERARY CONFERENCE—The Bengal Literary Conference met at Chittagong on the 22nd March. About three thousand delegates and visitors assembled. The Hon. Mr. Prasannakumar Rai, Chairman of the Reception Committee being unavoidably absent, Mr. JatraMohan Sen read the speech of the Chairman, which narrated the growth of Bengali literature in the locality, and pointed out the course that Bengali literature has nown taken with its new impetus from Western languages.

The Hon. Mr. P. K. Roy, President of the Reception Committee, in the course of his speech gave a short history of "Chittagong" and a description of its natural position and beauty which attracted travellers who expressed high admiration for the province. He dwelt on the relations of Chittagong with Bengali literature from its earliest stage, and explained that Chittagong played an important part and occupied no insignificant place in its gradual development. He also said that the history of the last fifty years would show that Bengali literature had improved much and was still improving. The Literary Conference, which was started in 1899, gave a new impetus to the cause. Since the beginning of the nineteenth century, when Raja Ram Mohan Roy urged the people of Bengal to reform their literature, it had been growing. But the speaker regretted that progress was very slow, and pointed out that during the same period many European languages rose from a lower to a much higher stage. In conclusion, the speaker invited the Bengali-speaking public to co-operate and spare neither pains nor money for the speedy growth of their language and literature.

Rai Bahadur Nabin Chandra Dutta proposed Mr. Akhoy Kumar Sircar to the chair.

Dr. Deva Prasad Sarbadhicary, in supporting the motion, made a grateful reference to Lord Carmichael for the grant of Rs. 1,200 in the cause of Bengali literature and his Lordship's keen interest in its improvement.

Mr. Sircar, the President, then delivered his address.

An exhibition was opened near the meeting ground. About 500 old handwritten books, none not less than 100 years old, many written on leaves and barks of trees before paper had been introduced, photographs of ancient tombs, idols and mosques of great antiquity and stores of great archaeological value have been collected from Chittagong and exhibited under the supervison of Messrs. Jamini Kanta Bose and Annada Charan Kanungoe.

CALCUTTA UNIVERSITY INSTITUTE—His Excellency the Governor of Bengal has kindly made a donation of Rs. 500 for the improvement of the Institute Library.

THE COLLEGES AND SCHOOLS.

SCOTTISH CHURCHES COLLEGE CALCUTTA.

THE following extracts are taken from the annual report: *University Results.*—The University results during the year have been most encouraging. The number securing Honours in their different subjects 39 in the B A. and 3 in the B. Sc. is very remarkable. We had the distinction of obtaining the first place in the University in History, Political Economy, Physics in the B. A. and Mathematics in the B. Sc. the second place in English with three First class Honours places, and the first three places in Philosophy.

Discipline—With such a number of students in class-room and examination room, it is only to be expected that cases of disorder must arise. Of those who join us, some have little or no sense of order while a few definitely intend to obey as little as possible. The latter have to be weeded out of hostel and college when they refuse to conform to rules, and in the case of the former a wise patience has to be exercised. Several cases of dishonesty have had to be dealt with this year, and warning has been given that in future such cases will meet with much more severe punishment.

College Societies—The Football and Cricket Clubs have had a strenuous if not brilliant year. The Athletic Society embraces a number of eager and expert athletes on its rolls—who recently gave an evening's entertainment in the College Hall. It is a question whether this Society must not change and widen the field of its operations. It is very unlikely that athletics will be carried to the same extreme in India that they have been in

many parts of the West, but one has only to see the pitiable failures in health, as each examination time approaches, in order to realize that the regular exercise of all the students must be seen to, either through their hostels or through the College Society.

Hostels—Our three Hostels have been full throughout the year and three rented houses are occupied as messes by our students under our own supervision. In this department the event of the year has been the acquiring of a new site of one bigha off Amherst Street, for another hostel, to be called in memory of Rev. A. Tomory, the "Tomory Memorial" hostel.

Bengal Veterinary College.

The Hon. Mr. P. C. Lyon, on Monday afternoon the 17th instant presided at the prize giving ceremony of the Bengal Veterinary College, held on the lawn of the College premises, the attendance being much smaller than those of preceding years.

The report of Major Smith, Principal showed that the number of students on the College rolls at the beginning of the session was 107 in the three classes which number dwindled to 99 at the close of the Session. They were composed of 75 Hindus, 22 Mahomedans, 3 Christians, and 2 Buddhists. 22 students passed in Class A, 23 passed in Class B, and 27 passed in Class C. The Board of Examiners in their opinion observed —"We are of opinion that the time has arrived to improve the standard of teaching and the class of student at the College. There is urgent demand for more highly trained graduates in the Provinces. The only way to meet this demand is to add to the teaching staff and to improve the quality of students admitted for training. We strongly recommend the addition of a fully qualified Imperial Officer to the teaching staff. All other Colleges doing similar work have at least two and some three Imperial Officers. We consider that the prospects are not sufficiently good to attract a sufficient number of suitable candidates and recommend that the question of improving the pay etc. of graduates may receive consideration.'

Of the 99 students, 88 were in receipt of stepends from various sources, five men from the Supplies and Transport Department were trained in nursing and dressing and two men from Monghyr and one from Assam were trained in horse shoeing.

During the year 2103 patients were treated against 1925 during the previous year. The number of cruelty cases sent by the trying Magistrates was 227 which in comparison with 13,814 prosecutions appear very small.

The fees realised for treatment etc., amounted to Rs 18,343-14-9 and the cost of feeding was Rs. 21,494-12-9 which includes the cost of feeding of the College riding ponies, the ambulance horses and the breeding and draft bulls, as also any charges, horses or cattle used in public service.

The Hon'ble Mr. Lyon after distributing the prizes, addressed the meeting at some length observing that he always felt a deep interest in the work of the college. While promising to do all he could to help the college, he observed the recommendations of the Board of Examinaners would receive due consideration at the hands of of Government. He concluded by congratulating the authorities and the people on the excellent results of the last year.

Bangabasi College Calcutta.

One bigha and four chattaks of land is being acquired in Calcutta for a hostel for the Bangabasi College. The site is opposite the College.

Ripon College Calcutta.

One bigha and two chitaks of land is being acquired for a hostel for the Ripon College. The site is to the north of the Collge building.

Presidency College Madras.

The Lord Elphinstone Prize for 1913 will be awarded to the best essay on the following subject :—*The conditions favouring the growth of a National Literature.* Competitors must have been regular students of the fourth year class of the Presidency College during the whole of the academic year July 1912 to April 1913. The essay must be neatly and legibly written on thick English foolscap paper and on one side of the paper only. The writer is required to attach to his essay a declaration in the following terms :— "I hereby declare that in writing this essay, I have not received assistance from any one, nor, have I referred to any works other than those mentioned below." The essay must reach the Principal before the 1st July 1913.

Doveton College Madras.

The interesting ceremony of the distribution of prizes to the successful pupils of the College took place under the presidency of His Excellency the Governor. There was a large gathering of ladies and gentlemen to witness the ceremony. The proceedings began with prayer, after which the Principal read the annual report on the working of the institution which showed good progress. After the prizes were distributed His Excellency delivered an interesting speech

Bahauddin College Junagadh.

A 'Social Gathering' of the Students of the College past and present in celebration of the College day was held on the 18th Inst.— when the College observed a holiday and several items of an interesting programme were successfully gone through. On the 16th and 17th Idem, the sports and races were held among past and present students of the College—which were witnessed by the spectators and the guests with keen interest and enthusiasm. The 18th of March must be chronicled as a Red Letter Day in the annals of the institution. In the morning from 12 to 3 the students gathered together to play indoor games both Eastern and Western and every sort of convenience of the invited guests and distinguished visitors was well looked to by the 'Social Gathering Committee' specially formed from among the students, for the occasion. Refreshments came next when students and professors mixed freely with one another and enjoyed a hearty chit-chat, magic feats and sleights of hand of professional magicians gave an a greeable turn, to faculties both physical and mental of spectators. The meeting then dispersed to meet again in the Central Hall at 8-30-P.M. When different recitations and various dramatic performances were successfully presented by the students before an audience of 1000 persons, consisting of, state officers, guests, students both of the High School and College Purdah Ladies and others. The two Administrators Mr. H. D. Rendall, and Mr. L. Robertson honoured the College by gracing the occasion with their presence. After a hearty vote of thanks had been accorded to those present, they were garlanded and dispersed amidst loud hearty cheers of students at 12 P.M.

The Hardwar Gurukula Anniversary.

The 11th Anniversary of the Gurukul Academy, Hardwar was celebrated on the 20th, 21st, 22nd, and 23rd of March, 1913.

Shri Swami Achyutanand Sarasawati, Shri Swami Satyananda Saraswati, Mahatma Munshi Rama, Pundit Ghasi Ram M. A. L. L. B., Babu Braj Nath B A. L. L. B., Professor Balkrishna M. A., Pundit Tulshi Ram Swami, and many other distin guished speakers and publicists delivered illuminating discourses on religious, social, moral and educational subjects.

A Sangit Sammelana was held in which Shrimati Satyabala Devi the Indian Lady Musician of international reputation, who has won her laurels in America and many other noted singers enthralled and entranced the assembly with melodious Sama Veda Hymns and other soul-elevating songs.

Arrangements were also made for securing the attendance of the best exponents and representatives of Ancient Aryan Music at the Conference.

An Arya Bhasha Sammelana was held to discuss practical measures for the improvement and enrichment of Arya Bhasha (Hindi) Literature, the wider propagation of the accepted *lingua franca* of Indian and of the Deva Nagri script.

The Hon'ble Pundit Madan Mohan Malviaya very kindly consented to preside and to deliver the opening address.

A Conference was held to discuss practical means for the improvement of the miserable intellectual and social condition of Indian untouchables.

Lala Lajpat Rai guided the deliberations of this all-important Conference. All public workers of Upper India, who are interested in this vital national question, fraught with deep momentous and tremendous issues took part in the deliberations.

A Devabani Sammelana was held in which the Bramcharies delivered Sanskrit speeches and recited Sanskrit verses and songs composed by themselves.

The Saraswati Sammelana (Symposium of the Learned) held its sittings on the 20th. Original papers on Bacteriology in the Vedas, "The method of Vedic Interpretation" and other subjects were read and discussed. Sanskrit scholars of note joined the Sammelana. Professor Satyendra Nath Sen of the City College Calcutta presided over the Sammelana.

There was an Educational and Art Exhibition in which Drawing, Painting and Kinderwork, executed by the Brahmacharies, as well as Scientific instruments and articles of use and beauty turned out by the Gurukula Workshop were exhibited and sold.

The Vedarambha Sanskar (Intitiation Ceremony) was performed on the last day. This is the Chief feature of the Anniversary. Boys of 8 and under from all parts of the country and belonging to many castes and tribes took solemn pledges and were duly enrolled, as members of a big family where just as in the Gurukula of old presided over by Bhrigus, Vashisthas and Vishwamittras, all Brahmans or Pariahs are treated on a footing of perfect equlity.

The Gurukula Anniversary is an event of the year in India. It attracts thousands of men, women and children from all parts of the country. This annual gathering is an evidence of the change that the mightly forward impulse communicated to the Hindu Community by Bhagwan Dayananda has wrought in the religious conceptions of educated Hindu India.

On this occasion one sees signs of moral fervour, spiritual enthusiasm, complete abstraction of

the spirit from temporal cares and worries and its absorption by a grand and uplifting ideal and countenances transfigured by beatific visions of a millennium, the only difference being that this rapturous enthusiasm and ecstatic earnestness is displayed not in the cause of image-worship or effete superstition but character building, Bramacharya. race improvement and moral and social amelioration of the community.

This year the gathering was unusually large partly on account of the Easter Concession being available but largely on account of the year's programme being very varied and attractive and the popularity of the Institution being on the increase.

Central Hindu College Benares.

An influential committee is being formed to commemorate the ten years' service rendered to the Central Hindu College and Indian education by Mr. G. S. Arundale, the retiring honorary principal. Among others the following distinguished personages have already joined :—

Mrs. Besant, Sir Subramani Aiyer, Mr. Justice Sadasiv Aiyer, Mr. Justice Chandra Shekharier of Mysore. Mr. Justice Chandavarkar, Seth Narotammorarji, Principal Scott of Junagad, Mr. Shaym Sundar Lal of Gwalior, Diwan Daya Krishna Kaul of Alwar, Mr. Kilroe of Nagpur, the hon. Mr. Kamini Kumar Chanda, B. Hirendra Nath Datta, Messrs. S. Sinha and Purendu Narain Sinha of Bankipur, Rajas Rampal Singh and Prithwipal Singh, the hon. Messrs. Ganga Prasad Varma, Sukhbir Singh, Tej Bahadur Sapru, Moti Chand, Gokul Prasad, Narsingh Prasad, Mahadeo Prasad and Bishambhar Nath, Dr. Satish Chandra Banerjee, Babu Sirish Chandra Basu, Kanwar Bharat Singh, Pandit Gokaran Nath Misra, Messrs. Ajodhya Dass, Iswar Saran, Ramnandan Prasad, and Dr. Isan Chand Roy.

La Martiniere, Lucknow.

Presiding at the prize giving at the Lucknow Martiniere School, on the 19th instant, Sir James Meston complimented the school on the success at examination. The girls' school was one, he said, this Province might be proud of. Speaking to the students His Honour cautioned them against slackness and said they must take interest in all they did, for on that depended their future. They owed it to themselves, more especially to their country, to work hard, for they were Britishers, and not to forget what their fathers had done for India. They must keep the British flag flying.

Technical Educoation.

Davar's College of Commerce Bombay.

We have to draw our readers' attention to the Circular of the above College distributed broadcast. This college is well known to impart Practical Business Training to qualify students to hold high positions in Banks, Private and Public Companies and other offices and to-day Prof. Davar's hundreds of studeuts are employed on high appointments in various parts of India such as Bombay, Madras, Ahmedabad, Punjab, Calcutta, Delhi, Burmah and some have even established themselves beyond the other side of the waters to such far off places as Ceylon, Japan, and Europe to carry on their own business or for high appointments. We wish to make particular mention about the specialised training in Banking which is given in this College to make the College students eligible to appear for the Institute of Bankers Examinations of London which are held in Bombay and which qualify those who pass same to hold high positions in Banks, as Secretaries, Managers, Accountants, etc. Students of this College have also been coached for those examinations held exculsively in Europe and sent there every year to compete with European candidates and they too have obtained brilliant success. Besides, for the convenience of those staying far away from Bombay and who on account of one reason or other, do not find it suitable to go to that City, but who are anxious to have training in Commercial and Accountancy Education, are coached by Correspondence System of Postal Instructions as in vogue in European Colleges, and we have the satisfaction to say that scores of students have been taking advantage of this system and have come out equally succesful in various examinations as those trained in the College. We would recommend those of our readers who wish to receive Commercial Education at their own place without going over to Bombay to avail themselves of this system of "Tuition by Post" and they would find it to their advantage. The College fee is moderate to suit all pockets and Prof. Davar lectures for three hours daily. Prof. Davar about fourteen years ago went to England as the first Indian to receive Commercial Training there and passed out the examinations by the Chartered Institute of Secretaries and the Society of Incorporated Accountants and Auditors. Since then he has visited Europe eight times and has considerably increased his knowledge and experience by specially visiting European Commercial Colleges and Professors in Commercial Lines over there, and this afforded him ample scope to bring this College up to the level of these European Colleges as it stands to-day

so prominent and foremost of its kind in India. It would not be out of place to mention here that some of our enlightened Indian Princes send to this College with State Scholarships every year those of their subjects who desire to receive Commercial Training.

A FORM OF EDUCATIONAL WORK WHICH INDIA NEEDS.

"Educate, Educate, Educate" is the cry on all sides. "Educate the masses, educate the classes, educate the men, educate the women" is the dictum from the press, the platform, the cabinet, the council, nay, the throne itself. But it is hardly enough only to feel and urge the need of education. "How to brighten every Indian home with education," to use the memorable words of the King Emperor is the question of questions. The government is awakend to the need of spending more and more on education; and private parties also seem to recognize that every spare farthing can be best utilized in spreading knowledge. The readiness and facility with which East and West are exchanging thoughts has also added considerably to the vastness and complexity of educational problems. Thus it has become essentially necessary to subserve the true interest of that education which is considered to be the one thing needful, and with more and more funds available for this class of work there must also come forward men competent to teach and help teaching. Side by side with a body of trained men to educate our people there must also exist highly resourceful agencies to place at their disposal up to date books and publications wherewith they may best carry out their work. The swiftness and speed with which every department of human knowledge is growing has made a set of competent discriminating publishers and book-sellers an indispensable concomitant of sound educational work. In fact a book selling and publishing house if it knows its business can by itself do a great deal towards removing ignorance and stimulating intellect. The mental food also has to be cooked and served before it can be taken and made into mind; and a publishing and bookselling concern worth the name is an indispensable adjunct to the schools and Universities if not a worthy substitute. Writers write and speakers speak and the world is stocked with books good, bad and indifferent. But to select, collect and distribute the right things can only be efficiently done by people who are themselves highly educated and know what have most contributed to the richness of their own mind. The personnel of book trade, therefore is a very important factor in the dissemination of sound education in a country. A number of really able publishers and booksellers can elevate their business almost to the rank of efficient teaching by addressing direct to the minds of the people varied healthy intellectual food of the day. Nor is it less necessary to save this particular line of business from those unscrupulous methods which have unfortunately come to be a standing feature of enlightened tradesmanship.

It is therefore highly gratifying sign of the times that distinguished university men are leaving the beaten track and turning the trained minds to this important work of helping the growing student population of the country in securing the requisite appliances of knowledge. The cultivated intelligence and moral sense which such men are sure to bring to bear upon their methods of work cannot fail to endear them to the book loving public. The popular prejudice that educated men cannot shine in business has been thoroughly exploded by the graduates of the German Universities who man the trade and industries of Germany.

We believe that the alumny of our Indian Universities too will show in no time that high education can only add to the strength and dignity of business, with which the welfare of a nation seems to be so inseparably bound up in these days of commercial civilization. We have already got some such indication in the success of a publishing and bookselling concern, Messrs Chuckervertty Chatterjee & Co, 15 College Square, Calcutta recently started by three distinguished M. Sc's of the Calcutta University, which during the short time of its existence has forced itself on the notice of the reading public by its enterprise and straight forward dealing. Fast riseth merit when proped up by education, and the excellent promise held out by this infant concern is an illustration of the above truth. A seedling requires both inherent vitality as well as light and air from without to grow up into a mighty tree. And it is hoped that with the patronage of the distinguished educational institutions of the country with which it has already been blessed will in time put it on a way to emulate the enterprise of the best publishing house of the world. The Company has immense possibilities the organizers being in a position to stimulate and guide publishing activities. Every country has its own peculiar methods and instinct and it is perhaps not too much to hope that in country where free education given through the munificence of the rich has been the tradition the wealthy houses of the country will not fail to avail themselves of the services of this small band of educated young men for the wide diffusion of knowledge amongst their less fortunate country men. The educated middle classes also should see to it that these pioneers who have begun this laudable experiment of wedding

high education to business receive every encouragement at their hands.

Education Abroad.

London University Items

Advanced Lectures in Oriental Languages

A Course of four Lectures on Gandhara (Buddhist) Art illustrated by Lantern Slides, were be given in French by Prof. A. Foucher, Charge de Cours at the Faculty of letters at the University of Paris and Assistant Director at the Ecole Pratique des Hautes Etudes, on March 10th, 12th, 14th and 17th, 1913, in the Jehangier Hall of the University Buildings at 5 p.m. The following is an outline of the Course :—

Le plan adopte, tout en permettant de donner aux auditeurs une vue d'ensemble du sujet, tend a glisser rapidement sur les questions deja resolues pour insister particulierement sur les points encore controverses on inedits. Il sera fait usage des dernieres decouvertes archeologiques en Asie centrale dans la mesure ou elles peuvent servir a preciser poriginalite et le role de pecole du Gandhara (district de Peshwar, Inde).

Voici le programme des quatre conferences :—

1. Le pays et les monuments ; apercu general sur les origines et l'influenence de l' Ecole es prenant pour base de cet expose sa creation la plus caracteristique, a savoir le type indogrec Buddha.

2. Les Bas-reliefs et la mise en scene de la legende de Buddha ; une etude speciale des "quatre grands miracles" fera ressortir l'apport nouveau et durable du Gandhara dans l'art boudhique.

3. Les Images ; nombre et variete des types iconographiques ; leur revue fournit un tableau de la societe et des croyances populaires de l'Inde du Nord-Ouest aux environs de notre ere.

4. Grandeur et decadence de l'ecole du Gandhara ; sa place dans l'histoire de l'art de l'Inde, de l'Asie orientale et de l'Ancien Monde.

The Lectures are addressed to advanced Students of the University and to others interested in the subject. Admission free, without ticket.

Advanced Lectures in Law

A Public Lecture on "Citizenship in Ancient and Modern Laws" was given at University College, by Mr. J. W. Salmond, M. A. LL. B. Solicitor-General of New Zealand on Friday, March 14th, 1913, at 5 P. M. The Chair was taken by the Hon. Thomas Mackenzie, J. P. M. P. F. R. G. S. High Commissioner for New Zeland. Admission free, without Ticket.

A Course of two Lectures on "The Law of the XII Tables" will be given at University College, by Prof. Frederic Girard, Professor of Roman Law in the University of Paris, at 5 P. M., on May 5th, and 7th, 1913. A further announcement will be made at a later date.

Advanced Lectures in Physical Chemistry

A Course of four Lectures on "The Theory of the Solid State" was given by Prof. W. Nernst, Professor of Physical Chemistry and Director of Institute of Physical Chemistry in the University of Barlin, at University College, on March 6th, at 6 P. M. and on March 7th, 10th, and 11th 1913, at 5 P. M. The subject was subdivided approximately into the following headings:— 1. The classical theory. 2. The theory of quanta. 3. Dulong and Petit's law from the point of view of the theory of quanta. 4. Calculation of the frequencies of the atoms from the melting point, elastic properties, electrical conductivity. 5. Modern devolopments of the thermodynamics of the solid state. 6. A general law governing the behaviour of solids at low temperatures. The Chair at the first Lecture was taken by Prof. Sir William Ramsay, K. C. B. F. R. S. The Lectures are addressed to advanced Students of the University and to others interested in the subject. Admission free without ticket.

Advanced Lectures in Geology

A Course of three Lectures, illustrated by lantern sides, on "Geological Problems of the Desert" will be given at University College by Dr. Johannes Walther, Professor of Geology in the University of Halle, on Wednesday, April 23rd, Thursday, April 24th, and Friday, April 25th, 1913. Each Lecture will last about an hour and a half, and will begin at 4-30 P. M. The Syllabus is as follows :—

Lecture 1.—Denudation and Sedimentation in the Libyan Desert.

Lecture 2.—Desert Conditions in Pre-Cambrian Time.

Lecture 3.—The Permo-triassic Desert of Central Europe.

A Course of three Lectures on "The British Ordovician, and its Faunas" will be given during May, 1913, by Miss Gertude L. Elles, D. Sc. Further details will be published at a later date.

The Lectures are adressed to advanced Students of the University and to others interested in the subjects dealt with. Admission free, without ticket.

The Libertarianism of Bergson.

The question of the Free Will is a problem which is ever old and yet ever new. The war between the Libertarians and the Determinists has been raging from time immemorial. Many campaigns have been fought; and the utmost resources of both the parties have been employed in the course of this long warfare. But neither party has hitherto won a signal victory so as to silence the other for good. Now one and now the other has been heeded with a more respectful attention, according as devotion to science or the ethico-religious consciousness of men has been the dominant note of times. The apostles of positivism,—Hume, Mill, Spencer and Comte,—in their excessive zeal for the cause of science, have tried to win the whole world for the loss of causation by subduing the intraceable and mysterious realm of mind and by breaking the illusion of the free will. Faith and moral consciousness of men have always been shocked by this insidious attempt on the part of science to oust them for ever from the world, and have inspired able votaries to open fire on the enemy with their mighty artillery of Logic and Rhetoric. These latter have had to fight in sheer self-defence to keep intact the freedom and integrity of one little nook of the world, viz., the human will against the onslaught and usurpation of the all-devouring causal law. If this be lost, alas! what will become of our native egotism, our moral responsibility and our vaunted superiority over nature—nay of our God, who will become either impotent to redeem the helpless mortals, swept along the tide of causation, or a redundant hypothesis—a figment of weak brains, a creation of idle fancy. Such vital and tender considerations as these led Martineau to advocate the cause of the Free Will in emphatic and unambiguous language; and considerations like the above led also Prof. James in more recent times to champion the cause of Libertarianism in an equally emphatic tone. Prof. James' indeed, would not allow our will and sentiments to be sacrificed at the altar of the tyrannical intellect. If the persistent demands of the insatiable intellect cannot be satisfied without surrendering human freedom, the incessant promptings of our moral and religious sentiments and impulses equally compel us to believe in such freedom. Why not then accept the doctrine of freedom rather than that of determination? Why not be true to the heart rather than swear allegiance to the head?

The opposition between Determinism and Libertarianism is at bottom the antithesis between the demands of the head and the heart.

But James' position is prima facie untenable. If Libertarianism can not defend itself before the bar of intellect, it can not stand, unless you can establish the incompetency of intellect in this connection. Professor Henri Bergson of College de France has done what the English philosopher could not. He dives deeper than James or most other thinkers. His method is critical in Kant's sense; he examines the intellect at the outset to find out its true province just as Kant begins his philosophy by examining the power of reason as a revealer of truth. If Kant takes us behind the veil of experience to show us Reason in her virgin glory, ready with her parapharnalia of forms and categories, to be wedded to the manifold of sensations, Bergson takes back to the prehistoric times—to the birthday of Reason to show us with what mission on earth she sprang into existence and what must, therefore, be the domain which she is destined to lord it over. Both follow a method of critical regress. But with the former the regress is logical, while with the latter it is historical or chronological.

The demand of the intellect, if not satisfied, has at least to be explained, Bergson does so.

So far as regards their general philosophical method. Now let us see with what success they apply this method to the solution of the problem in hand.

Prof. Bergson says that the intellect is nothing but a tool forged in the process of evolution to help the possessor in the struggle for existence. In that struggle the individual has mostly to grapple with the material environment. Hence the intellect is specifically intended to deal with material things extended in space. The categories of the intellect are, therefore, applicable, strictly speaking, only to spatial things and not to the mind which is non-spatial. Causal determination is such a category and cannot therefore be applicable to mind without some qualification. But it will be perhaps said, 'Is not causation essentially a kind of sequence, and is not it conversant with events happening in time, and lastly is not mind only a temporal series of our feelings, ideas and desires? If then, the category of causation is applicable to any other series of events, why can it not be applied to the mental series?' This is the stock argument of Determinism. But Bergson points out here—and this contention is the corner stone of his philosophy—that our so-called time is not real duration, but real duration refracted through the notion of space. It is a spurious product of our imagination, a counterfeit coin forged in the mint of intellect passing for real duration. To this pseudo-time, which is space in disguise, the causal category is of course applicable, but not to real duration. And the causal category can, therefore, be applicable not to the mind which really endures, but to that distorted picture of it

Bergson shows the limits of the intellect. It can adequately describe matter, but not mind.

which is seen through the glasses of this time. The failure to grasp the distinction between our time and real duration lands us in hopeless confusion and gives rise to all the puzzles connected with the Free Will, the Paradox of the Eleatics and so forth. The keen insight of Bergson detects this mighty fraud, exposes the world wide jugglery of the Intellect and disillusionizes us.

Real duration is an experience of continuous change. The different moments of it interpenetrate or telescope and do not lie outside each other as things in space do. This we experience directly when we abstract from the notion of space and the material world and throw the attention inwards upon the workings of our own mind. How imperceptibly one feeling or thought glides into another in an unbroken chain! Nowhere is there any sharp line of demarkation. Each coming thought is already in the present one. We can not say when and where the one ends and the other begins. This is real duration; this can be felt, lived through, but not dissected and measured. There is no common measure, for the different moments cannot be identical. They are qualitatively different and therefore cannot be expressed in terms of each other. The different moments are heterogeneous and not homogeneous. The time which is presupposed in causation is not such. In that time the different moments are supposed to be external to each other, and different portions of it can be measured in terms of the same units, viz., days, hours, minutes etc. But the externality and homogeneity referred to above are the characteristics of space. Our so-called time of science and common sense is only space over again in another form. Measurement or number implies the coexistence of homogeneous units outside each other, i. e. space.

Time and Real Duration.

Now, what is implied in the law of causation? On the qualitative side, it presupposes at least the repetition of antecedents and consequents. For, how else can there be a law? On the quantitative side it involves the equality or rather the identity in substance of cause and effect. Herein lies the element of necessity in causation and in this consists the force of the word 'determination.' But such conceptions are not applicable to real duration, but only to pseudo-time. When we say for instance that the ignition of gunpowder causes explosion, we imply that both the phenomena recur again and again; and we suppose that the transition from the ignition to the explosion wherein consists the causal process in question, is nothing but a redistribution of matter and energy, in which these latter remain identically the same. But are these presuppositions justifiable? Is not the world essentially of the nature of a flux? Was not Heraclitus right in holding that no one can bathe twice in the same stream? Science at last would endorse such a view. Is not the whole creation in its every part passing through a whirl of change every moment? The earth is rotating and revolving round the sun; other planets, satellites and stars are doing much the same; our sun is itself said to revolve round other suns. Every atom of the material world in the eye of science is incessantly moving. In the region of life—whether vegetable or animal—we notice the same continuous change only in a greater degree. Tissues of tree or of the human body are being ever destroyed and replaced by others created a new. Is not the same true of every cell of every organism? It is growing, decaying, decomposing and procreating others afresh. When we come to the life of the mind the change is kaleidoscopic. Our ideas, feelings and desires are proverbially fleeting. Do the same clouds, the same fire, the same tree, the same animal, and, above all, the same thought come back again? But the atomists in the physical science as well as in the mental science would probably contend that relations alone change, but the physical and the psychical atoms remain the same. Have not philosophers, however, demonstrated again and again to the contrary that the atomic theory is an abstraction, that an atom stripped of all relations is nothing at all, that every conceivable unit or atom must be bound up with the rest of the world by hundreds of ties (gravitation being one of them in the case of material atoms) and is bound to change with every alteration in those ties. In the case of mind the shallowness of atomism is more apparent. No body can have the same sensation twice. The second sensation simply because it is second and has known a first will acquire a new significance. To the student of modern psychology this is all but a truism. The days of Mill and his school are over. The crude associationism of old psychologists has been undermined, and Bergson is not perhaps the least successful of the enthusiasts who have combined to lay the axe at the root of that doctrine. What becomes then of the uniformity and necessity of causation, when the world with everything in it is changing through and through?

Presuppositions of the law of Causation.

They are not true of the real world.

We have seen then that the reality cannot be adequately represented through the causal law. But there is an important reservation. A distinction is to be made between material and mental phenomena. Both change, but the change in the latter is immeasurably greater than that in the former, so much so that this difference in degree is really tantamount to a difference in kind. In describing the

But they are more true of matter than of mind.

former we may for all practical purposes—and science actually does—safely ignore it, but any account of the latter which ignores this is manifestly false. A brick building or a rock may remain for all practical purposes much the same tomorrow as today, but not our thoughts and desires, which have a peculiar fluidity and elasticity of their own. A conflagration, whether taking place in Mexico or in India, whether happening today or a hundred years hence, is essentially the same to the chemist. The varying relations, into which such a phenomenon enters by virtue of its position in time and space, are immaterial to the scientist. The world he has to deal with is to all intents static and not dynamic. We can have practically the same conflagration again and again. The antecedents as well as the consequents bear repetition as much as we like. Nothing prevents us from having again and again the same combustible materials exposed to the same oxygen in the air under a high temperature, and with the same resulting phenomenon called conflagration. So far, as regards repetition and uniformity. Then, as to the quantitative equivalence of cause and effect, we see that the elements or rather the atoms of matter before the conflagration and after it are the same and for every form of energy in the antecedents we have some equivalent form of it in the consequents. Not only this, but also the antecedents in their totality and their original form can be restored again from the consequents. Though this can not be actually achieved in every case this is quite conceivable; and on such a supposition directly or indirectly rests all the force of the words 'determination' and 'necessity'. When we say, 'Given something, something *must* follow from it of necessity', we have in view not only a uniform sequence, but something else, viz., that the second something is somehow contained in the first. This identity or equivalence presupposes that time does not 'bite' into the material atoms, that they can last in time without undergoing any change, that an earlier moment of their existence is in no way different from their later moments. All these notions are very well applicable to material phenomena. For all practical purposes they do not exist in time, since the time in which they exist, not changing them altogether, is no time at all, but a projection of space as it were in an imaginary fourth dimension. But let us turn to mental phenomena. The central law there is the Law of Relativity. The thought of an apple occurring to me today is quite distinct from the same thought (the convention of language would call it 'the same thought') that occurred to me in my infancy. For, every mental state is relative to all others that have gone before and is modified by them. The mental series is not like any physical series e. g. a series of shots or rain drops. A shot or a raindrop has a more or less discrete existence, not so a mental state. The latter cannot be taken out of its setting without virtually ceasing to be. Neither can it exist without the series, nor, therefore, can it be repeated. Mind really endures i. e. is affected by time and continuously changes. The repetition of the same phenomenon as well as the identity of two successive phenomena—the two requisites of the causal law—are out of question in the rigion of mind.

Here we should introduce a second qualification. Even among mental phenomena a distinction is to be made. There is the superficial self, made up of sensations, perceptions, feelings and impulses which are in direct correspondence with the states of the organism extended in space. There is, again, the inner and deeper self consisting of our motives and desires, emotions and ideas that well up from the very depth of our nature and have no direct correspondence with the states of the body. The former group of phenomena is more or less causally determined, in so far as they are correlated to the spatial phenonena connected with the organism, and can, through them, admit of clear-cut distinctions and repetition and can also, through them, indirectly satisfy the principle of the conservation of energy. But when we come to the will proper as a phenomenon of the inner self, the application of the causal law is out of the question. The freedom of the will then, in Bergson's sense, does not mean that there are two or more alternative courses open to us at the same time, one of which we can choose; but it means that the decision arrived at finally is reached by an imperceptible transition from the previous states, which can hardly be distinguished from it or separately named, that neither the decision nor its antecedents are capable of repetition, that when the decision is once arrived at it is impossible to get back from it its antecedents. In short, it is inseparable, unique and unanalysable. Such a thing is not caused in the ordinary sense of the term. So determination falls to the ground. But the crude libertarianism with the doctrine of alternative courses is equally untenable, as the very supposition of alternative courses or routes apparently involves spatial notions wholly inapplicable to the mind and particularly to the will.

The two selves—one superficial and the other lying deeper. The former partly obeys the causal law, but not the latter. So the will is free.

Now there is some similarity between the methods of philosophy employed by Kant and Bergson as we have noticed before. But there is an essential difference between their doctrines of the free will. To Kant causality was a category of the understanding applicable to phenomena alone *i.e.* to things existing in time and space.

Bergson and Kant on the Free Will

Bergson would amend the statement and say, the category of cause is applicable to things existing in space and in *our conventional time* which is a modification of space after all, but not to things existing in *real time* and having *real duration*. Kant's view leads to the irreconcilable opposition between the freedom of the noumenal self and the determination of the empirical self. Kant's will becomes free by foregoing duration and becoming timeless, Bergson's will attains liberty by claiming real duration. While Kant's freedon is a poor abstraction, Bergson's freedom is rich as reality. Again to Kant the autonomy of the will is synonymous with the autocrary of Reason; to Bergson real freedom has to be found in the dark recesses of the heart where the rays of Reason can not penetrate. Kant's free will is the bondsman of Reason; Bergson's freewill, if not the master and creator of Reason, is at least far beyond its jurisdiction: Reason can neither fathom nor fetter it.

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REVEIWS
AND MINOR NOTICES

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EDUCATIONAL POLICY OF GOVERNMENT OF INDIA—II.

(*Continued from page 378.*)

30.—The policy to be pursued in regard to technical and industrial education was discussed at the Allahabad Conference. The Government of India accept the conclusions of that Conference that progress should continue along the lines generally followed hitherto, viz, that—

(1) The Indian Institute of Science which provides for research, the application of new processes, and the production of thoroughly trained managers, should be developed as opportunity offers and become eventually a complete faculty of pure and applied science.

(2) The larger Provincial Institutions which attract students from different parts of India and afford instructions in practical methods of manage-

ment and supervision should, in the first instance, specialise along lines converging on local industries —a plan which will prevent overlapping and make for economy. Subsequently as industries arise and the demand for managers and foremen increases, other and more varied courses may be found necessary.

(3) The lesser industrial schools, minor weaving institutions, such of the schools of art as have an industrial bent, the artisan classes in Bengal and trade school generally, should be permanently directed toward such industries as exist in the localities where the institutions are situated.

31.—The question has arisen as to how far educational institutions should develop on commercial lines. It should in no case trade on commercial lines. In certain cases instruction in industrial schools may be supplemented by practical training in workshops where the application of new processes needs to be demonstrated. In certain cases also it will be necessary to purchase and maintain experimental plant for demonstrating the advantages of new machinery or new process and for ascertaining the data of production.

32.—Quite recently Lieutenant-Colonel E. H. Atkinson, R. E., Principal of the Thomason College, Roorkee, and Mr. T. S. Dawson, Principal of Victoria Jubilee Technical Institute, Bombay, were deputed to enquire how technical instruction can be brought into closer touch and more practical relations with the employers of labour in India. Their report contains many suggestions which are under consideration and emphasises the necessity of studying the demand for technically-trained men, of attracting Indian capital to industrial enterprise, and of supplementing tuition at college by a period of apprenticeship. It also indicates that while the field of employment or occupation in the highest grades is at present limited, the outlook for Indians is generally hopeful, provided the necessity for preliminary practical training is fully realised.

SCHOOLS OF ART.

33. There are four Government schools of Art in India with some 1,300 pupils, of which two are mainly industrial schools or schools of design. Interesting developments are the rise at the Calcutta institution of a new school of Indian painting which combines Indian treatment of subjects with Western technique and the foundation of an architectural branch in the institution at Bombay. But much remains to be done in connection with indigenous art industries. The matter requires careful expert consideration. The Government of will address the local Governments on the subject and for the present content themselves with advocating the importance and urgency of preserving for and in India scientifically arranged collections of the products of its ancient and modern arts and crafts. The understanding and appreciation of eastern art work in Europe and Amcrica is draining good specimens in an increasing volume, into the public collections of those continents.

MUSEUMS.

34. The relation of muscums to the educational systems of India was discussed at the conference held at Simla in July, 1911. Much valuable work has been done by the zoological and geological sections of the Indian Museum at Calcutta which are now equipped on modern lines. The archæological section of the same museum has recently been reorganised under the direction of Mr. Marshall, director-general of archæology. In provinces outside Bengal also there has been good progress in the right direction but in the case of most local museums there is need for better equipment and a stronger staff. One of the most urgent needs in India is an ethnographic museum under scientific management designed to illustrate Indian civilisations in its varied phases ; otherwise students in the future will be compelled to visit the museums of Paris, Berlin, Munich and other places in order to study the subjects which should clearly be studied best on the Indian soil. The Government of India will consult expert opinion on the subject. As at present advised they are inclined to favour the formation of a museum of Indian arts and ethnography at Delhi. Their accepted policy, though some overlapping is inevitable, is to develop local muscums with special regard to local interest and to concentrate on matters of general interest in the imperial museums. How to make the muscums more useful educationally and secure greater co-operation between the museum authorities and educational authorities is a matter on which they have addressed the local Governments.

AGRICULTURAL EDUCATION.

35. The present scheme of agricultural education originated under Lord Curzon's Government and is, in fact, only seven years old. Previous to the year 1905 there was no central institution for research or teaching and such education as was then imparted in agriculture was represented by two colleges and three schools in a more or less decadent condition. Very few Indians then had any knowledge of science in its application to agriculture and still fewer were capable of imparting such knowledge to others. In the year 1905 a comprehensive scheme was evolved under which arrangements were made both for the practical development of agriculture by Government assistance and also for teaching and research in agriculture and subjects connected with it. A central

institution for research and higher education was established at Pusa. The existing schools and colleges were reconstituted, improved and added to. Farms for experiments and demostrations were started, and as time went on a change was effected in regard to agricultural education in its earlier stages. As now constituted the scheme of agricultural education has three main features, *viz.* (*a*) the provision of first class opportunities for the higher forms of teaching and research ; (*b*) collegiate education and (*c*) the improvement of secondary and primary education.

36. The Institute at Pusa maintained at a cost of Rs. 4 lakhs a year has 37 Europeans and Indians on its staff engaged partly in research and partly in post-graduate education, and the instruction through short courses, of students or agriculturists in subjects which are not regularly treated in provincial institutions. There are now six provincial institutions containing over 300 students and costing annually between five and six lakhs of rupees. Practical classes for agriculturists have also been established at various centres in several provinces. In the ordinary ellementary schools formal agriculture is not taught, but in some provinces a markedly agricultural colour is given to the general scheme of education.

FOREST COLLEGE.

37. The college at Dehra Dun has recently been improved and a research institution has been established in connection with it. Indians can here obtain in forestry which approximates to that ordinarily obtained in Europe.

VETERINARY EDUCATION.

38. Veterinary research is carried on at the Bacteriological Laboratory at Muktesar. The scheme of veterinary colleges has been thoroughly reorganised since 1904. There are now four such institutions with 511 students as well as a school at Rangoon. These institutions meet fairly well the growing demand for trained men.

MEDICAL INSTRUCTION.

39. Instructions in the western system of medicine is imparted in five recognised colleges and fifteen recognised schools in British India. These now annually produce between six and seven hundred qualified medical practitioners. A Medical Registration Act has recently been passed for the presidency of Bombay under which passed students of such schools are entitled to become registered, and a similar Act is now under consideration in the presidency of Bengal. In Calcutta there are four self-constituted medical schools, the diplomas of which are not recognised by the Government of India. Among the recent devolopments may be mentioned the establishment of an X-Ray Institute at Dehara Dun and the formation of post-graduate classes in connection with the Central Research Institute of Kasauli. These latter include training in bacteriology and technique and preparation for special research. Classes of practical instruction in malarial technique are also held twice a year at Amritsar under the officer in charge of the malarial bureau.

40. Other projects are engaging the attention of the Government of India including the institution of a post graduate course of tropical medicine. The practical want of such a course has long been felt, and the Government of India are now in communication with the Secretary of State regarding its establishment in the Medical College at Calcutta. The Calcutta University have expressed their willingness to co-operate by instituting a diploma to be open to graduates who have taken the course in tropical medicine. A scheme for a similar course in Bombay is also under consideration. The Government of Madras have submitted a scheme for the construction of a pathological institute and the appointment of a whole-time professor of pathology with a view to improve the teaching of that subject at the Madras Medical College. Other matters which are likely to come to the front at no distant date are the improvement of the Medical College at Lahore and its separation from the school, the improvement of the Dacca Medical School and the provision of facilities for medical training in the Central Provinces.

41. The subject of medical education is one in which the Government of India are deeply interested. It is also one that may be expected to appeal with special force to private generosity. A problem of particular importance is the inducement of ladies of better classes to take employment in the medical profession and thus minister to the needs of the women whom the *purda* system still deters from seeking timely medical assistance. One of the hindrances hitherto has been that Indian ladies are able to obtain instruction only in men's colleges or in mixed classes. With a view to the remedying of this defect and commemorating the visit of the Queen-Empress to Delhi certain of the Princes and wealthy landowners in India have now come forward with generous subscriptions in response to an appeal by Her Excellency Lady Hardinge, who has decided to merge in this project her sceme for a school for training Indian nurses and midwives. The Government of India are considering proposals to found a woman's medical college and nurses training school at Delhi with the help of a subscription from the Government. Proposals are also under consideration for assisting the

National Association for Supplying Female Medical Aid to the women of India and to improve the position of the staff of the Countess of Dufferin fund.

LEGAL EDUCATION.

42. There has been a marked development of legal education in the last decade. First, it has been concentrated. In 1901 there were 35 institutions—college classes and schools—containing 2,800 students. At the present time there are 27 institutions with a slightly larger number of students. The Madras and Bombay presidencies, Burma and the Central Provinces each possesses a single institution and in Bengal the instruction for the degree of Bachelor of Law has been restricted to certain colleges, although other institutions are still recognised for the pleadership examination. A law college has been established on a liberal scale under the University of Calcutta. This concentration has resulted in greater efficiency and greater expenditure. In 1901, the cost to Government was a little over Rs. 7,000 and the total cost was 1¼ lakhs. At present the cost to Government is over Rs. 45,000 and the total cost over Rs. 2,83,000. Secondly, the courses have been remodelled, and in some cases lengthened. The Government of India will be glad to see an extension of the policy of concentration and improvement. They also desire to see suitable arrangements made for the residence and guidance of law students.

COMMERCIAL EDUCATION.

43. There has recently been a considerable expansion in commercial education. Nine years ago there were ten colleges with less than 600 students and Government spent less than Rs. 4,000 upon these institutions. At the present time there are 26 institutions, three of which are under the management of Government. The enrolment is now over 1,500 and the expenditure from provincial funds is over Rs. 22,000. The standard attained in the majority of these institutions is not however high and the instruction given in them prepares for clerical duties in Government offices rather than for the conduct of business itself. A project for a commercial college of a more advanced type in Bombay has been sanctioned and the Government of India are considering the question of making arrangements for organised study of the economic and allied sociological problems of India.

UNIVERSITY EDUCATION

44. Good work which the Government of India desire to acknowledge has been done under conditions of difficulty by the Indian Universities and by common consent the Universities Act of 1904 has had beneficial results. But the condition of University education is still far from satisfactory in regard to residential arrangments, control, the courses of study, and the system of examination. The Government of India have accordingly again reviewed the whole question of University education.

45.—It is important to distinguish clearly on the one hand the federal university in the strict sense in which several colleges of approximately equal standing, separated by no excessive distance or marked local individuality, are grouped together as a university, and on the other hand the affiliating university of the Indian type which in its inception was merely an examining body; and although limited as regards the area of its operations by the Act of 1904, has not been able to insist upon an identity of standard in the various institutions conjoined to it. The former of these types has in the past enjoyed some popularity in the United Kingdom, but after experience it has been largely abandoned there, and the constituent colleges which were grouped together have for the most part become separate teaching universities without power of combination with other institutions at a distance. At present there only five Indian Universities for 185 arts and professional colleges in British India, besides several institutions in Native States. The day is probably far distant when India will be able to dispense altogether with the affiliating university. But it is necessary to restrict the area over which the affiliating universities have control, by securing in the first instance a separate university for each of the leading provinces in India, and, secondly, to create new local teaching and residential universities within each of the provinces in harmony with the best modern opinion as to the right road to educational efficiency. The Government of India have decided to found a teaching and residential university at Dacca, and they are prepared to sanction, under certain conditions, the establishment of similar universities at Aligarh and Benares and elsewhere as occasion may demand. They also contemplate the establishment of universities at Rangoon, Patna, and Nagpur. It may be possible hereafter to sanction the conversion into local teaching universities with power to confer degrees upon their own students of those colleges which have shown the capacity to attract students from a distance and have attained the requisite standard of efficiency. Only by experiment will it be found out what type or types of universities are best suited to the different parts of India.

DEVELOPMENT OF TEACHING FACULTIES.

46.—Simultaneously the Government of India

desire to see teaching faculties developed at the seats of the existing universities, and co-operate and encourage in others to promote higher study and create an atmosphere from which students will imbibe good social, moral, and intellectual influences. If they have already given grants and hope to give further grants hereafter to these ends, they trust that each University will soon build up a worthy university library suitably housed, and that higher studies in India will soon enjoy all the external conveniences of such work in the West.

47.—In order to free the universities for higher work and more efficient control of colleges, the Government of India are disposed to think it desirable (in provinces where this is not already the case) to place the preliminary recognition of schools for purposes of presenting candidates for matriculation in the hands of the Local Governments, and in case of Native States of the Durbars concerned, while leaving to the universities the power of selection from schools so recognised. The University has no machinery for carrying out this work, and in most provinces already relies entirely on the Departments of Public Instruction, which alone have the agency competent to inspect schools. As teaching and residential universities are developed the problem will become even more complex than it is at present. The question of amending the Universities Act will be separately considered.

48.—The Government of India hope that by these developments a great impetus will be given to higher studies throughout India, and that Indian students of the future will be better equipped for the battle of life than the students of the present generation.

49.—The Chiefs' Colleges advance in popularity in developing character and imparting ideas of corporate life. They are serving well the purpose for which they were founded. They are also attaining steadily increasing intellectual efficiency. But the committee of the Mayo College, Ajmere, have decided that it is necessary to increase the European staff. The Post Diploma course has on the whole worked satisfactorily, and there is now a movement on foot to found a separate college for the students taking this course. Such a college may in the future become the nucleus of a university for those who now attend the Chiefs' colleges.

School staffed by Europeans only.

50.—The grave disadvantages of sending their children to England to be educated away from home influences at the most impressionable time of life are being realised by Indian parents. The Government of India have been approached unofficially from more than one quarter in connection with a proposal to establish in India a thoroughly efficient school staffed entirely by Europeans and conducted on the most modern European lines for the sons of those parents who can afford to pay high fees. No project is yet before them; but the Government of India take this opportunity to express their sympathy with the proposal; and, should sufficient funds be forthcoming, will be glad to assist in working out a practical scheme.

Trained Teachers.

51. Few reforms are more urgently needed than the extension and improvement of training of teachers for both primary and secondary schools in all subjects, including, in the case of the latter schools, science and oriental studies. The object must steadily be kept in view that eventually, under modern system of education, no teacher should be allowed to teach without a certificate that he is qualified to do so. There are at present 15 colleges and other institutions for the instruction of those who will teach through the medium of English. These contain nearly 1,400 students under training. There are 550 schools or classes for the training of vernacular (mainly primary) teachers, and their students number over 11,000. The courses vary in length from one to two years. The number of teachers turned out from these institutions does not meet the existing demand and is altogether inadequate in view of the prospects of a rapid expansion of education in the near future. The Government of India desire Local Governments to examine their scheme for training teachers of all grades and to enlarge them so as to provide for the the great expension which may be expected, especially in primary education.

Training Colleges.

52. As regards training colleges for secondary schools some experience has been gained, but the Government of India are conscious that the subject is one in which a free interchange of ideas based on the success or failure of experiment, is desirable. The best size for practising school and the relations between it and the college, the number of students in the college for which the practising school can afford facilities of demonstration without losing its characrer as a model institution, the nature of and the most suitable methods of procedure in practical work, the relative importance of methodology and of psychological study, the best treatment of educational history, the extent to which it is desirable and practicable to include courses in subject matter in the scheme of training, especially courses in new subjects, such as manual training and

experimental science, the points in which a course of training for graduates should differ from one for non-graduates the degree to which the body awarding a diploma in teaching should base its award on the college records of the student's works, and other unsolved questions indicate that the instructors in training colleges in different parts of India should keep in touch with other, and constantly scrutinize the most modern developments in the West. Visits made by selected members of the staff of one college to other institutions, and the pursuit of furlough studies, would seem especially likely to lead to useful results in this branch of education.

Pay and Prospects of Education Services.

53. The Government of India have for some time had under consideration the improvement of the pay and prospects of the Education Services, Indian, Provincial, and subordinate. They had drawn some proposals in regard to the first two services and approved some schemes forwarded by Local Governments in regard to the third when it was decided to appoint a Royal Commission on the Public Services of India. The Government of India recognise that improvement in the position of all the Educational Services is required so as to attract first class men in increasing numbers; and while leaving questions of reorganisation for the consideration of the Commission, are considering minor proposals for the improvement of the position of these Services. They attach the greatest importance to the provision for the old age of teachers either by pension or a provident fund. Teachers in Government institutions, and in some areas teachers in schools managed by Local Boards, are eligible for these privileges. But it is necessary to extend the provision in the case of Board and Municipal servants, and still more in the cases of teachers of privately managed schools, for the great majority of whom no such system exists. It is not possible to have a healthy moral atmosphere in any schools primary or secondary, or at any college when the teacher is discontented and anxious about the future. The Governor-General in Council desires that due provision for teachers in their old age should be made with the least possible delay. Local Governments have already been addressed upon this subject.

The Domiciled Community.

54.—The defective state of the education of the Domiciled community has long been remarked —many suggestions have from time to time been made for its improvement. An influential committee presided over by Sir Robert Laidlaw is now collecting funds for the schools of all denominations except Roman Catholic schools. As in the case of secondary English education and for similar reasons the policy has been and is to rely on private enterprise guided by inspection and aided by grants from public funds. The Government of India have never had any intention of changing their policy: but in order to discuss the whole question and to obtain definite practical suggestions of reform, they assembled an influential conference at Simla last July.

55.—The recommendations of the conference were numerous and far-reaching. The Government of India are prepared to accept at once the view that the most urgent needs are the education of those children, who do not at present attend school and the improvement of the prospects of teachers. They are also disposed to regard favourably the proposal to erect a training college at Bangalore with arts and science classes for graduate courses attached to it. They recognise that grants-in-aid must be given in future on a more liberal scale and under a more elastic system. They will recommend to Local Governments the grant of a greater number of scholarships to study abroad. The proposals to re-classify the school, to introduce leaving certificates, to include in the course of instruction general hygiene and physiology, special instruction in the temperance, and the effects of alcohol on the human body, and the other detailed proposals of the Conference, will be carefully considered on the line of the opinion of Local Governments when they have been received.

56.—The suggestion was put forward and largely supported at the Conference that European education should be centralised under the Government of India. This suggestion cannot be accepted. Apart from the fact that decentralisation is the accepted policy of Government, the course of the discussion at the Conference showed how different were the conditions of life of members of the domiciled community in different parts of India, and how these differences necessarily reacted on their educational arrangements. The Government of India are convinced that although some difficulties might be removed, more would be created by centralisation.

Mahomedan Needs.

57.—The figures and general remarks contained in this resolution are general and applicable to all races and religions in India, but the special needs of the Mahomedans and the manner in which they have been met demands some mention. The last nine years have witnessed a remarkable awakening on the part of this community to the advantages of modern education. Within this period the number of Mahomedan pupils has increased by approximately 50 per cent and now stands at nearly a

million and a half. The total Mahomedan population of India is now 57,423,866 souls. The number at school accordingly represents over 16·7 per cent of those of a school going age. Still more remarkable has been the increase of Mahomedan pupils in higher institutions, the outturn of Mahomedan graduates having in the same period increased by nearly 80 per cent. But while in primary institutions the number of Mahomedans has actually raised the proportional school of grades among the children of that community to a figure slightly in excess of the average proportion for children of all races and creeds in India, in the matter of higher education their numbers remain well below the proportion, notwithstanding the large relative increase. The facilities offered to Mahomedans in different provinces generally take the form of special institutions, such is madrassas, hostels, scholarships, and special inspectors. The introduction of simple vernacular course into *maktabs* has gone far to spread elementary education amongst Mahomedans in certain parts of India. The whole question of Mahomedan education, which was specially treated by the Commission of 1882, is receiving the attention of the Government of India.

ORIENTAL STUDIES.

58.—The Government of India attach great importance to the cultivation and improvement of oriental studies. There is increasing interest throughout India in civilisation, and it is necessary to the investigation. A conference of distinguished Orientalists held at Simla in July 1911 recommended the establishment of a central Research Institute, on lines somewhat similar to those of L'ecole Francaise d'extreme Orient at Hanoi. The question was discussed whether research could efficiently be carried on at the existing universities, and the opinion predominated that it would be difficult to create the appropriate atmosphere of Oriental study in those universities as at present constituted; that it was desirable to have in one institution for scholars working on different branches of the kindred subjects which comprise Orientalia, and that for reasons of economy it was preferable to start with one institute well equipped and possessing a first class library. The Government of India are inclined to adopt this view and to agree with the Conference that the central institute should not be isolated, that it should be open to students from all parts of India, and that it should, as far as possible, combine its activities with those of the Universities of India and different seats of learning. The object of the institute, as apart from research, is to provide Indians highly trained in original work who will enable schools of Indian history and archæology to be founded hereafter, prepare catalogues raisonne's of manuscripts, develop museums, and build up research in universities and colleges of the different provinces. Another object is to attract in the course of time *Pandits* and *Maulvis* of eminence to the institute and so to promote an interchange of the higher scholarships of both the old and the new schools of Orientalists throughout India, but before the formation of a definite scheme the Governor-General in Council desires to consult local Governments.

59. While making provision for scholarship on modern lines, the conference drew attention to the necessity of retaining separately the ancient and indigenous systems of instruction. The world of scholarship, they thought, would suffer irreparable loss if the old type of *Pandit* and *Maulvi* were to die out before the profound knowledge of their subjects had been made available to the world, and encouragement rather than reform was needed to prevent such an unfortunate result. Certain proposals for encouragement were made at the Conference viz.

(*a*). Grants to Sanskrit colleges, *Madrassas*, *Tols*, *Patshalas*, *Maktabs*, *Pongyi Kyaungs*, and other indigenous institutions in order to secure better salaries for teachers, and to enable students by fellowships or scholarships to carry their education to the highest point possible;

(*b*). The appointment of specially qualified inspectors in Orientalia;

(*c*). The provision of posts of highly trained *pandits* and *maulvis*;

(*d*). The grant of money rewards for Oriental work.

The Government of India hope to see adoption of measures that are practicable for the maintenance and furtherance of the ancient indigenous systems of learning, and have called for proposals from the local Governments to this end.

FUNCTIONS OF LOCAL BODIES.

60. The fuctions of local bodies in regard to education generally and their relations with the departments of public instruction are under the consideraton of the Government of India. But it is clear that if comprehensive systems are to be introduced, expert advice and control will be needed at every turn. The Government of India propose to examine in communication with local Governments the organisation for education in each province and readiness for expansion. A suggestion has been made that the Director of Public Instruction should be *ex-officio* a secretary to the Government. The Government of India, agreeing with the majority of the local Governments are unable to accept this view which confuses the position of administrative and secretariat officers but they consider it necessary that the Director of Public Instruction should have regular access to the

head of the administration or the Member in charge of the portfolio of Education. The Government of India wish generally to utilise to the full the support and enthusiasm of distinct officers and local bodies in the expansion and improvemet of primary education ; but the large schemes which are now in contemplation must be prepared with the co-operation and under the advice of experts. A considerable strengthening of the superior inspecting staff including the appointment of specialists in science, orentalia, etc., may be found necessary in most provinces. In Madras an experienced officer in the Education Department has been placed on special duty for two years to assist the Director of Public Instruction to prepare the scheme of expansion and improvement in that pro vince, and the Government of India would be glad to see a similar arrangement in all the major provinces should the local Government desire it.

61. In the Resolution of 1904 it was stated that arrangements would be made for periodical meetings of the Directors of Public Instruction in order that they might compare their experience of the results of different methods of work and discuss matters of special interests. The Government of India have already held general conferences at which the Directors attended, and they are convinced that periodical meetings of Directors will be of great value. While each province has its own system, it has much to learn from other provinces ; and when they meet, the Directors get into touch with new ideas and gain the benefit of experience obtained in other provinces. The Government of India are impressed with the necessity not only of an exchage of views amongst, experts, but also of the advantages of studying experiments all over on the spot ; and in a letter of July 7th, 1911, they invited Local Governments to arrange that professors of arts and technical colleges and inspectors of schools should visit institutions outside the province where they are appointed with a view to enlarging their experience.

62.—Such, in board outline, are the present outlook and the general policy for the near future of the Government of India. The main principles of this policy were forwarded to His Majesty's Secretary of State on September 28th, 1911, and parts of it have already been announced. It was, however, deemed convenient to defer for publication a Resolution until the whole field could be surveyed. This has now been done. The Governor-General in Council trusts that the growing section of the Indian public which is interested in education will join in establishing, under the guidance and with the help of Government, those quickening systems of education on which the best minds in India are now converging, and on which the prospects of the rising generation depend. He appeals with confidence to wealthy citizens throughout India to give of their abundance to the cause of education in the foundation of scholarships, the building of hostels, schools, colleges, laboratories, gymnasia, swimming baths, the provision of playgrouds and other structural improvements in furthering the cause of modern scientific studies, and especially of technical education, in gifts of prizes and equipment ; the endowment of chairs and fellowships, and the provision for research of every kind. There is a field and a noble opportunity for the exercise on modern lines of that charity and benevolence for which India has been renowned from ancient times.

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All communications of a business nature (advertisements, changes of address, enrolment as a subscriber) should be addressed to the Manager, and all remittances should be made payable to him.

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Correspondents are requested to write legibly on one side of the paper while sending in MSS. for the press.

Communications intended for publication must be accompanied by the name and address of the writer not necessarily for publication but only to satisfy the Editor.

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Vol. II **THE COLLEGIAN** No. 1

All-India Journal of Education.

CALCUTTA, THURSDAY 25TH APRIL, 1912

The terrible disaster of the sinking of the "Titanic", the world's greatest of liners by its collision with an iceberg is "one of those terrible events in the order of Providence which baffled foresight and which appalled the imagination." The event has cast Universal sorrow over all countries. We must however express our admiration that the best traditions of the sea seem to have been observed and that willing sacrifices were offerred to give the chance of safety to those least able to save themselves.

The Loss of the Titanic and Mr. W. T. Stead

Among the valuable lives lost we see the name of Mr. W. T. Stead, the Editor of the "Review of Reviews." His loss is deplored all round the world. He greatly influenced modern journalism and in the 'Review of Reviews' he helped to mould the opinions of many on public affairs.

* * *

We offer our sincere and cordial greetings to His Excellency Lord Carmichael, the first governor of the Presidency of Bengal. We are glad to present our readers with a portrait of His Excellency as a frontispiece to this issue.

Portrait of Lord Carmichael

* * *

Our distinguished countrymen Dr. P. C. Roy, the great Bengalee savant and Babu Deba Prasad Sarbadhikary will sail from Bombay by S. S. 'Egypt" on the 4th May next as delegates appointed by the Calcutta University, to take part in the deliberations of the forthcoming Conference of the Universities of the Empire, which commences its sessions in the beginning of July next, under the presidencies of such distinguished educationists as Lord Rosebery, Lord

Delegates to the Empire Universities Congress from the Calcutta University

Haldane and others, Dr. Roy is going also as a delegate of our University to participate in the celebration of the 250th Anniversary of the Royal Society. This unique ceremony is expected to be a brilliant function and will, no doubt, be celebrated in a becoming manner.

* * *

We deeply regret to record the death of Babu Langat Sing. Babu Langat Sing was a self-made man who rose from the humblest ranks. He was essentially patriotic and was a great supporter of the Swadeshi movement. He had taken a prominent part in the establishment of the Indian Stores and the Banga Lakshmi Cotton Mills and to the last continued to take an active interest in both. Not a man of any great culture himself, as the word "culture" is usually understood, he was an ardent advocate of Western education. The Bhumihar College, of which he was the founder, will for all time bear testimony to his intense interest in the cause of education as well as his active patriotism. The death of such a man is a great loss to the country. We offer our sincere condolence to his bereaved family.

The late Babu Langat Sing

* * *

In commemoration of Queen Mary's visit to India the Begum of Bhopal is devising a scheme for forwarding female education and is circulating an open letter on the subject. The Begum's idea is to start a well-equipped school to become afterwards into a model institution of its kind. Provision will be made both for the rich and poor. Twelve lakhs will probably be required at the outset and the details are being worked out. Her Highness has offered one lakh from the State and Rs. 20,000 from her private purse. Her daughters-in-law have promised nineteen thousand rupees among them.

The Begum of Bhopal and Female Education

* * *

A proposal to found a new college for the higher education of chiefs and nobles who have passed successfully through one of the four existing chiefs' colleges comes from the General Council of the Mayo College, Ajmer. It will bear the name of H. I. M. King George. The chiefs' colleges are essentially schools and a boy whose education ends with the college diploma has many of the failings common to English school boys. At the higher Chiefs' College whether he is a chief or a jagirdar he will learn that outside his own narrow circle of home life there are numberless other states each with its own traditions and customs, and each equally important in its own way and that all are integral portions of the Indian Empire.

Chiefs' Colleges

* * *

The Royal Colonial Institute of London has elected Mr. Habibur Rahman Khan Bahadur the inventor of water wireless telegraphy as a Fellow. The Institute made an exception in his case on account of his scientific services and without being proposed by four members which the ordinary rules require he was unanimously elected as a Fellow. He has also been admitted by the Institution of Electrical Engineers of London, on the proposal of Mr. Styan, Director of Telegraphs, Chief Electrical Engineer of India, Chief Electrical Engineer, Delhi Durbar, and the Electrical Adviser to the Government of India, the highest electrical authorities in India, which affords a clear proof of the popularity of his discovery.

Mr. Habibur Rahman

* * *

The precedent set by the appointment of Madame Curie to succeed her husband as Professor of Physics in the University of Paris has been followed by the appointment of Mmlle. Edmae Chandon, as Assistant Astronomer at the Paris Observatory. The routine of a modern observatory offers many opportunities for the employment of women, and many are on the permanent staffs of all the great American observatories. Some of the most remarkable of the new stars which have blazed out in the heavens during the last thirty years were discovered by the late Mrs. Fleming, a clever Scotswoman, who became a director of the astro-photographic department of the famous observatory at Harvard College. No woman astronomer has received official acknowledgment in England, but there are many who, like Lady Huggins and Mrs. Maunder, have done much important original research work.

Women Professors

Bengali literateurs mustered strong on the 13th instant at the hall of the 'Sahitya Parishad,' Calcutta, to honour Pandit Nagendra Nath Basu, Prachya Vidyamohornob, and con-

A Bengali Encyclopœdia

gratulated him on his having completed the compilation of the Bengali Encyclopœdia after 25 years' strenuous labour quite unassisted by anybody. The chair was taken by Mahamahopadhyaya Pandit Haraprasad Sastri, M. A., Pandit Tarakumar Kaviratna blessed the guest of the evening in right Hindu fashion and read a Sanskrit poem composed by him, eulogising the compiler. The Pandit said that the completion of the great work which contained 17,000 pages, marked a new epoch in the history of Bengali literature. It won the commendation of a personage like the late Pandit Iswar Chandra Vidyasagar, who said that the task was impossible for any country except Europe.

The first Hindu Educational Conference Lahore

The first Hindu Educational conference was held at Lahore on the 4th, 5th and 6th instant. The conference was divided into four sections :—1. *Industrial Education*—Chairman. Mr. Harkissen Lal. Resolutions were passed drawing the attention of the Hindu Community to the necessity of divising means for industrial education and asking the government to encourage industrial enterprize in view of free trade and advanced state of knowledge and to create bodies like the Senate of the University to take charge of Industrial Education.

2. *Elementary Education*—Chairman Pandit Hansraj (formly Principal D.A.V. College). He said that according to Manu Smriti it was the duty of the King and subjects to mutually co-operate for imparting elementary education to the masses. He strongly urged education on a national basis and Hindi as the medium of instruction. Lala Lajpat Rai said if the people exerted themselves the Government was bound to co-operate. If the people took the matter upon themselves Mr. Gokhale's bill would be sure to pass.

3. *Female Education*—Chairman: Mr. Devraj (President Kanya Mahavidyalay Jullundur). He suggested that widows might be employed as female teachers. Extensive provisions for secondary and higher education among girls were urged with proper provision for moral and religious culture. Hindu schools should be opened, where Hindu girls might be brought up according to Hindu traditions and ideals.

4. *Education of Depressed classes*—Chairman: Mr. Gangaram (Sialkot Arya Samaj) Resolutions were passed to the effect that education of the Depressed classes should be one of the principal objects of elementary education and special schools for them should be opened, where necessary, all over the provinces.

* * *

Conference of Pundits

A conference of pundits in Southern India assembled at Conjeeveram for the discussion and practical solution of some of the socio-religious problems agitating the Hindu community. The conference was attended by many learned pundits from different parts of the Presidency and Mysore. Sir S. Subramania Iyer presided, and in the course of his speech referred to the observance of sacraments or samaskaras, sea voyages and the study of Sanskrit. In connection with the last subject the President made a strong appeal to the pundits for a change in the methods of their studies, which he thought was quite opportune having regard to the fact that before long the Government would found an Oriental Institute in the new capital at Delhi, and which institute would afford substantial facilities to those who were ready to avail themselves of them and the speaker trusted that some at least from this part of India would, from time to time, not fail to do so.

* * *

Anglo-Indian Education

The fund for the education of Europeans and Eurasians in India amoungts to £97,000. The Government of India is moving in the matter of Anglo-Indian Education. A conference has been summoned to meet at Simla next month to consider this question. It will be for the most part non-official. Each province will be represented as well as the Roman Catholic, the Anglican and the free churches.

* * *

Two important publications

Messrs. Longmans Green and Co. have published two very important books.—"The Indian Shipping" by Prof. Radhakumud Mukerjee M.A, is really a forgotten chapter in Indian History and "The Science of History and the hope mankind" by Professor Benoy Kumar Sarkar, M.A. based on lectures delivered by the author at the Bengal National College, Calcutta.



CALCUTTA UNIVERSITY

The under mentioned gentlemen have been appointed to conduct the M. A and M. Sc. Examinations to be held in July 1918

ENGLISH

T. S. Sterling, Esq., M. A. J. W Horne, Esq., M. A. Egerton Smith, Esq., M A Mr. Herambachandra Maitra, M. A. Mr. Rabindranath Datta M. A. Dr. Brajendranath Seal, M. A. Ph. D. H. Stephen, Esq., M. A.

SANSKRIT.

G. Thibaut, Esq., C. I. E. Ph. D., D Sc Mahamahopadhyay Kaliprasanna Bhattacharyya, M.A., Mahamahopadhyay Dr Satischandra Acharya Vidyabhusan, M.A. Ph. D. Dr. S. R. Bhandarkar, M,A. Rai Rajendrachandra Sastri, Bahadur M.A. Mahamahopadhyay Gurucharan Tarkadarsantirtha. Mahamahopadhyay Dr. Ganganath Jha, M.A. D. Litt. Pandit Pramathanath Tarkabhusan. Pandit Bahuballav Sastri. Pandit Thakur Prasad Vyakaranacharyya. Pandit Rajendranath Vidyabhushan. Pandit Bhagabatkumar Goswami, M.A. Pandit Lakshman Sastri.

ARABIC.

Dr. E. D. Ross, Ph. D. Lt. Col. D. C. Phillott, I.A. The Hon'ble Dr. A. M. Suhrawardy, M.A. Ph.D., D. Lit, LL.D. Shamsul-Ulama Ahmad. Do, Shaikh Mahmud Gilani. F. R. Azoo, Esq., Dr. J. Horowitz, Ph. D.

PERSIAN.

Dr. E. D. Ross, Ph. D. Lt.-Col. D. C. Phillott. I.A. The Hon'ble Dr. A. M. Suhrawardy, M.A., Ph.D, D. Litt, LL D. Shamsul-Ulama Ahmad. Do. Shaikh Mahmud Gilani. Maulavi Kazim Shirazi.

PHILOSOPHY.

H. Stephen, Esq., M,A. Dr. G. Thibaut, C. I. E., Ph. D. D. Sc. Dr. Brajendranath Seal, M.A. Ph.D. Dr. Adityanath Mukerjee, M.A. Ph.D. Dr. Hiralal Haldar, M.A Ph.D. J. R. Banerjee, Esq., M.A. Babu Krishnachandra Bhattacharyya, M.A. Rev. W. S. Urquhart; M.A. P. K. Sen Esq, M.A. P. K. Chakrabarti, Esq., M.A.

HISTORY.

E. F. Oaten, Esq., M.A. Dr. E. D. Ross, Ph.D. J. N. Das Gupta, Esq., B.A. (Oxon.) Dr. J. V. Ryan, B.A. LLD. R. B. Ramsbotham, Esq, B A. Babu Jadunath Sarkar, M.A. Babu Bipinbihari Sen, M. A. M. N. Bose, Esq, M.A.

ECONOMICS.

The Hon'ble Mr. Justice Asutosh Mookerjee, C.S.I., M.A., D.L., D.Sc. F R A S, F R S E. Manohar Lal, Esq., M.A. Babu Binoyendranath Sen, M.A. C. Russell, Esq., M.A. J N. Das Gupta, Esq, B.A. (Oxon) W. A. J Archbold, Esq., M A. W. C. Wordsworth Esq., M.A. J. C. Coyajee, Esq, B.A. E. A. Horne, Esq., M.A Dr. J. V. Ryan, B.A. LL D. Babu Satischandra Ray, M A., (Calcutta Corporation.)

MATHEMATICS.

The Hon'ble Mr. Justice Asutosh Mookerjee C.S.I., M.A, D.L., D.Sc F R A S, F R S E. C Little Esq., M.A. Dr. D. N. Mallik, B.A., Sc D. F. R. S. E. Babu Gaurisankar De, M.A. Babu Syamadas Mukerjee, M.A. Babu Indubhusan Brahmachari M.A. R. P. Paranjpye, Esq. M.A. Dr. Ganesh Prasad. M.A. D. Sc. Babu Phanindralal Ganguli, M.A.

PHYSICS.

C. W. Peake, Esq, M.A. J. C. Bose, Esq, C.I.E. M.A., D.Sc. E. P. Harrison, Esq. Ph. D. Dr. D. N. Mallik, M.A., Sc. D, F. R. S. E.

CHEMISTRY.

Dr. P. C. Ray, DSc., Ph.D. Babu Chandrabhushan Bhaduri, B.A. E R Watson, Esq. M.A. B.Sc. Dr. W. A. K. Christie, Ph, D.

MADRAS UNIVERSITY

The following candidates have passed the B. A. (Honours) Preliminary Examination in English held in April 1912 :—

B. A. Hon Preliminary Exam in English Results

[If candidates desire their Intermediate certificates to be returned to them at an address different from that given in their application forms, they should intimate their new addresses to the Registrar within one month after the publication of the results ; if no such intimation is received, the certificates will be ruturned to the addresses given in the application forms after the 31st July 1912.]

MADRAS CHRISTIAN COLLEGE.

1. Balakrishaa Wariar, C. Sankara. 2. Ganapati Aiyar, Padmanabha. 3. Gopala-Krishnan, Vidalur D. 4. Krishnasomayaji, Kolichina. 5. Krishnaswami, Parijatha N. 6. Markandeyulu Patibanda, 7. Nanjundaiya, Hadya S. 8. Narasimhan, Nadadur. 9. Norayana, Chittur V. 10. Pranatartiharan, M.N. 11. Ramaiya, Tumkur D. 12. Ram Pai, Achyuta. 13. Rangachar, Hemmige. 14. Srinivasa Rau, Closepet B. 15. Srinivasa Rau, Varanasi. 16. Sundara Reddi. E. V. 17. Thomas, Sitthar A. 18. Venkatachari, S. 19. Venkataramani, K. S.

PRESIDENCY COLLEGE.

20. Ananda Rau, Conjeeveram K. 21. Arulswami, Swami. 22. Chinnapatta bhiramaiya, Dulla. 23 Gopalan, A. N. 24. Hanumanta Rau, Kandalam. 25. Hanumanta Rau, Siruguri. 26. Jagannathadas, Bachu. 27. Jagannathan, R. 28. Kerala Varma, 25th Prince of Cochin. 29. Kesavan, R 30. Kodanda Rau, Pandurangi. 31. Krishnamachari, T. 32. Krishnamachari, T. N. 33 Krishnamohan, Valluri. 34. Krishnan, L. S. 35. Krishna Rau, Tanjore S. 36. Krishnaswami Aiyangar, Pundi R. 37. Krishaswami Rau, V. 38. Mahalingam, Ramaswami. 39. Mangesha Rau, Ullal. 40. Mudlagiri Nayak, Udipi. 41. Myers Kathleen. 42. Narasimhachari, Koliyalam. 43. Narasimhan. P.V. 44. Narasinga Rau, Kalavagunta. 45. Natayanaswami, T. M. 46. Noronha, Charles. 47 Padmanabha Menon, Pattattil. 48. Peck Thomas R. H. 49. Ramachandra Rau, Vijendra. 50. Ramanathan, Kalpati R. 51. Ramani. N. 52. Rama Rau, Bellur, 53. Rangaswami Aiyangar, K. 54. Ranganathan, K. 55. Ranganathan, Subrahmanya. 56. Sangamesvaran, R. K. 57. Sankaran Namviyar, Paramaavil P. 58. Sankara Rau, Ullal S. 59. Satagopachari, Komanduri, 60. Saundraraja Rau, Krishna. 61. Sivadasa Menon, Madattil P. 62. Sivasuriyan, S. 53. Srinivasa Aiyangar, Padur. 64. Srinivasachari, T. D. 65. Srinivasan, S. 66. Srinivasan, Sankalapuram. 67. Srinivasa Rau, Canchi. 68. Teyuni Menon, Pulikot. 69. Vardacharyulu, S. T. Gudimella. 70. Varadan, M 71 Venkatakameswara Rau, Popuri. 72. Venkatanarasimhasubba Rau, Matakumalli. 73. Venkataraman, V. 74. Vankataramanamurti, Bavikanti. 75. Venkatasubba Rau, Aripirala. 76. Venkatervaran, T, Venkatarama. 77. Virabhadrudu, Tanikella. 78. Viraraghavachari, T. N.

BANGLORE.

PRESIDENCY COLLEGE.

79. Raju, Lakshmipuram S.

ST. JOSEPH'S COLLEGE. TRICHINOPOLY.

80. Ambravanesvaran, S. 81. Natesan, N.P. 82. Raghava Menon, Randamvittil. 83. Rama-Chandra Aiyar, N. R. 84. Ramachandran, S. 85. Sankaran Nayar. M. 86. Saptarishi, L. S. 87. Sriramachandran. V, 88 Subrahmanyan, P. A. 89. Varkkey, Chunkat J. 90. Vedasiromani, Asirvadam. 91. Venkatachalam, S. V.

Election of Members of Syndicate

It is hereby notified that, in the election of two members of the Senate to serve on the Syndicate in the place of Dr. A. C. Mitchell and the Hon'ble Mr. P. S. Sivaswami Aiyar, resigned, the following duly nominated members of the Senate received the largest number of votes :—

(1) Mr. J. G. Tait, M.A. (2) Mr. B. Hanumanta Rau, B A., C.I.S O.

Mr. J. G. Tait, M.A., and Mr. B. Hanumanta Rau, B.A., C.I.S.O., have accordingly been duly elected members of the Syndicate. The election shall take effect from the date of this notification.

1. The L. T. Degree Examination of 1913 will be held at Madras, Saidapet and Tri-

Exam. Dates and Centres

vandrum. 2. The B. A. Dagree (Honours), Part I of 1913, will be held at Madras and Trichinopoly.

3. The B.A. Degree Examinations (under the old Byelaws and under the new Regulations) will be held at the following places in April 1913 :—

Madras—All Branches and Groups.
Bangalore—Branches I, IV and V and Groups (i), (iv), (v) and (vi) only.
Trichinopoly—Branches I, IV and V and Groups (i), (iv). (v) and (vi only.
Trivandrum—Branches I, IV and V and Groups (i), (iv), (v) and (vi) only.

NOTE.—Candidates for the above examinations selecting Branches II and III (old Byelaws) and Groups (ii) and (iii) (new Regulations) will be required to sit at *Madras* for every Part of the B. A. Degree Examination in which they intend to appear.

4. The Intermediate Examination in Arts will be held at the following places in March and April 1913 :—

Madras.	Jaffna.	Rajahmundry.
Bangalore	Kumbakonam.	Tinnevelly.
Calicut.	Madura.	Trichinopoly.
Coimbatore,	Mangalore.	Trivandrum.
Kottayam.	Masulipatam	Vizianagram.
Ernakulam.	Mysore.	
Hyderabad (Deccan).	Palghat.	

5. The Matriculation Examination will be held at the following places in March 1913 :—

Madras.	Hyderabad (Deccan).	Tinnevelly.
Bangalore.	Mangalore.	Trichinopoly.
Bellary.	Mysore.	Trivandrum.
Kottayam.	Rajahmundry.	Vizianagram

PUNJAB UNIVERSITY.

Opening of the University Library

In opening the Punjab University Library in its new building, Sir Louis Dane made a very brief speech the main point of which was that it might be possible to amalgamate the existing Punjab Public Library with the University Library to the advantage of both thus solving the difficulty of a suitable site for the former. The new Uuiversity Library building has accommodation for twenty thousand volumes upon its shelves. Of the existing stock some six thousand and five hundred volumes constitute the Percival collection being the gift of Professor H. M. Percival, late of the Presidency College, Calcutta, who made it over on the single condition that it should be maintained as a separate collection. Books worth Rs. 35,000 have been purchased with funds provided by recurring grants from the Imperial Treasury.

ALLAHABAD UNIVERSITY.

Vice-Chancellor

We are glad to learn that his Honour the Chancellor is pleased to appoint the Hon. Dr. Sundar Lal to be Vice-Chancellor of the Allahabad University, with effect from the 1st April, *vice* the Hon. Sir Henry Richards, resigned.

Exam. Dates

(i) The Intermediate and the Matriculation examinations of 1913 will be held on Monday, the 17th March, 1913, and following days beginning at 10 A.M. each day ; one paper as far as possible being given daily in the Intermediate examination, and two papers daily in the Matriculation examination ; (ii) The Degrees (Arts and Science)examinations of 1913 will be held on Monday, the 31st March, 1913, and following days, beginning at 7 A M. each day, one paper as far as possible being given daily ; (iii The Previous and Final LL.B. and the LL.M. examinations of 1913 will be held on Monday, the 28th April, 1913, and following days beginning at 7 A.M. each day, one paper as far as possible being given daily ; (iv) The L. T. Examination of 1913 will be held on Monday, the 7th April, 1913, and following days, beginning at 7 A.M. each day, one paper being given daily.

The dates for the Degrees Practical examinations will be notified hereafter.

Law Regulations

It has been ruled by the Faculty of Law that, under Chapter XXII, Regulation 13 (ii), only candidates who appear at the examination from affiliated colleges in the Central Provinces including Berar, may take up the Central Provinces Tenancy Act and the Central Provinces Land Revenue Act, together with the rules made thereunder, and that candidates from all other colleges must take up the Law relating to Land Tenures, Rent and Revenue in the United Provinces of Agra and Oudh, and the Faculty is further of opinion that this ruling should be strictly enforced from July 1912.

The Preliminary Scientific Examination for the Degree of Bachelor of Medicine and Bachelor of Surgery (both written and practical) will be held in the Muir Central College, Allahabad on Monday, the 9th September 1912 and following days, commencing at 10 A.M. each day, one paper as far as possible being given daily. The syllabus prescribed for the Preliminary Scientific Examinations of 1912 and 1913, is given below.

Preliminary Scientific Examination, 1912

CHEMISTRY :—

The Modes of Occurrence, Preparation and General Characters of Methane, Ethane, Ethylene, and Acetylene, and their derivatives *viz.*, Haloid Compounds, Alcohols and Ethereal Salts, Ethers, Aldehydes, Ketones, Acids, Amines, Starch, Sugar and the processes of Fermentation, Urea, Benzine and its more important derivatives, Glycerine and Saponification, Boron. A brief description of the following Metals, outlines of the most important metallurgical processes, important Compounds, Use and Tests: Sodium, Potassium. Ammonium, Calcium, Magnesium, Zinc, Mercury, Aluminium, Copper, Silver, Iron, Tin, Lead, and Antimony. The Nature of Combustion, Structure of a Flame, Cause of Luminosity, Oxidation and Reduction, Blowpipe Flame and its Use, Acids, Alkalis, and Salts. Neutralisation.

Courses of Studies for Preliminary Scientific Exam. 1912

The General Methods of the Preparation and Purification and the Principles of the Ultimate Analysis of Organic Substances.

Students shall also be required to pass an additional practical examination in Elementary Volumetric Analysis, *viz.*, Titration of Acid and Alkalis, Estimation of Ferrous Salts by means of Potassium Permanganate, Estimation of soluble Chlorides and Carbonates.

The following book is suggested :—

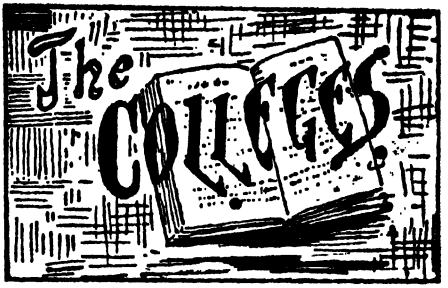
Remsen's Oraganic Chemistry (Macmillan.)

BIOLOGY :—

The Syllabus prescribed in General Biology for the Intermediate Examination of 1912.

Chemistry :—As above in 1912. Biology—The Syllabus as prescribed in 1912 with the addition to the practical work of the Dissection of the Rabbit.

For 1912.



and Schools.

Leaving Belvedere by motor His Excellency Lord Carmichael, accompanied by Captain Vaux, A.-D.-C., paid a private visit to the Presidency College on the morning of the 6th instant. At the College the Hon. Mr. G. W. Kuchler, Director of Public Instruction, received His Excellency and introduced him to Mr. H. R. James, Principal, Dr. J. C. Bose, Dr. P. C. Roy, Mr. C. W. Peake, Dr. Cullis, Dr. Harrison, Dr. D. N. Mullick, Professor Mahalonobis, and other Professors of the College.

His Excellency Lord Carmichael at the Calcutta Presidency College

The party went round the various laboratories and afterwards paid a visit to the Observatory located on the roof of the main building, where His Excellency was able to get an excellent view of the surrounding panorama and also of the new land acquired for the construction of the Hindu Hostel. A move was then made to the Physical and Physiological Laboratories, and here His Excellency evinced a deep interest in some of the specimens exhibited, as he is himself a naturalist of no mean order, having written several interesting monographs on various insects. Before leaving for Belvedere His Excellency paid a surprise visit to the Eden Hindu Hostel and was very much pleased with the arrangements made for the students. In spite of the fact that the College was enjoying the Easter Holiday vacation, a large number of students learning of the visit mustered in the College compound and accorded His Excellency an enthusiatic ovation.

The following students have passed successfully the Final Senior Diploma Exa-

Campbell Medical School Calcutta

mination from the Campbell Medical School 1911-12, and are qualified to be styled Sub-Assistant Surgeons.

Nogendranath Adhicari, Pashupati Barik, Jitendra Nath Biswas, Pashupati Biswas, Amulya Ratan Bose, Manmohan Chakrabarty, Kristodhan Chatterji, Surendra Narayan Chowdhury, Gosta Bihari Das, Satish Chandra Das, Sundar Gopal Dhar, Jatindra Nath Dutt, Jatindra Chandra Ghose, Jatindra Nath Ghosh, Narendra Lal Ghosh, Romesh Chandra Ghosh, Sourindra Mohan Ghosh, Sibendra Chandra Ghosal, Baikanto Behari Mitter, Amal Prasanna Mukherji, Monmotha Nath Mukherji Nalin Kumar Nandy, Miss Mariam Pugh, Dinesh Chandra Roy, Atul Chandra Samanto, Sankardas Sanyal, Amarendra Nath Sen, Charusila Sinha.

Murarichand College Sylhet

The Murarichand College, which has hitherto been run on a Government subsidy, will be taken over by the Government with effect from the 1st of April. Mr. A. C. Dutt, who is now a Professor in the Chittagong College, has been elected Principal; and of the existing staff, Babus Radha Kanta Bhavani, Sures Chandra Sen Gupta and Surendra Nath Kundu have been retained. Very general regret is felt that Babu Rai Charan Biswas, who is very popular alike to the students and the general public, has been transferred to the Rajshahi College. A very central and convenient site has already been secured for building the College, the hostel and the residential quarters for the Principal. The College will, at present, continue to be a second grade one, but will be raised to the status of a first-grade College in a couple of years.

D. A. V. College Lahore

At the annual prize distribution of the D. A. V. College, Lahore on the 6th instant students presented an address to Lala Hansraj on his retirement from the Principalship after twenty-six years' honorary service.

D. A. V. High school Rawalpindi

At the opening ceremony of the new building of D. A. V. High School, Rawalpindi, Sir Louis Dane said that the policy of the Punjab Government was to help those who helped themselves. Regarding the claims made by the Arya Samaj as being the first in the field to give practical effect to imparting religious and secular education side by side on denominational lines, His Honor remarked that the claims were perfectly true and the Arya Samaj certainly deserved the the best thanks of the Government for making their task easier and fruitful.

Mayo College Ajmer

As previously announced, while noticing the visit of His Imperial Majesty Queen Mary to the Mayo College Ajmer, we shall be in a position to insert a photo of the new buildings of the Institution, in our May No. 1 issue, so kindly given us by the Cosulting Architect to the Government of India.

Agra College

The Government has granted 40,000 Rs. to the College for the construction of a hostel for students. To this sum the College will add 20,000 Rs from its own pocket. The hostel will be erected just by the side of the New Hostel, and its name, it is heard, will be George Hostel. Electric light will also be provided in the rooms.

St. John's Collegiate School Agra

The annual prize distribution of the St. John's Collegiate school Agra took place on Monday the 18th March. The annual report read out by the Head master showed an all round improvement during the year. Poems—Urdu and Hindi specially composed by the students to be recited on this auspicious occasion were read out. To the delight of all those present some senior students performed Shakespear's "King Lear" with great success. All the actors did their part very well, to the satisfaction of the audience. The play was followed by the distribution of the prizes to the deserving students With a votee of thanks to the chair, the meeting dispersed amid loud applause.

Gurukula Anniversary

The Gurukula anniversary was celebrated with great eclat. People from all parts of the country gathered and great enthusiasm prevailed.

The Saraswati Sanmilan met on the 5th April. Shastri Salgram and Kanj-

ratan Akhilanand read essays in Sanskrit. Essays by Vidhu Shekhar Bhattacharya and Lamenter Panday Sahityacharya were also read and the senior "Bram charis" spoke in admirable Sanskrit. The "Sanmilan" held its sitting on the same day. About 2,000 picked and educated people attended. Swami Satyanand of the Punjab presided. The chief interest centered round the first resolution moving that the Hindu University should adopt a Arya Bhasha as the medium of instruction. Professor M. C. Sinha, the mover said that the Gurukula Vishwavidyalaya had led the the way and proved that not only could high class literary education be imparted by adopting Arya Bhasha but that even scientific education was possible; for who could say that the Gurukula boys did not know as much science as the students of other schools and yet they were taught through the medium of Arya Bhasha. He said that such organisers of the Hindu University as say that the time for Arya Bhasha has not yet come ought to take lessons from Mahatma Munshiram who has proved that not only the time for Arya Bhasha but for Sanskrit has come, as you have all seen how boys of sixteen years have conveyed scientific ideas in eloquent Sanskrit. Professor Ramdeva seconded the resolution and said that if the Hindu University could not turn out something more than the existing universities then there was no use of spending so much money over it; "let the Hindu University use Arya Bhasha and produce scientific books if they can't be had or let it not come into existence at all."

Resolutions were also passed moving that a vigorous effort be made to write the Punjabi language in Deva Nagri character; that Arya Bhasha libraries be established along with every Arya Samaj Temple; that Lala Lajpat Rai and Lala Harkishan Lal be thanked for starting Deva Nagri schools and requesting the leaders of other provinces to act similarly; that editors of papers of provincial languages be requested to publish at least once a month an article in Deva Nagri character; that the authorities of the Kanya Mahaderyalya, Ferozepore, be thanked for introducing Deva Nagri in their schools and requesting other suitable institutions to act similarly.

Mr. F. T. Brooks, the well-known Geeta lecturer then delived a lecture on the "Essentials of Character."

On the morning of 6th April, the Gurukul Convocation was held. In the afternoon the Devabani Sammilan met when "Bramcharies" Jaydeva and Bramhadut delivered lectures in Sanskrit and the "Bramcharies" of the lower classes recited Sanskrit shlokas which pleased the audience highly. Pandit Brijnath, B. A., L.L.B., of Moradabad delivered a most impressive lecture on the "Necessity of Raising the Status of the Depressed Classes" and Swami Satyanand spoke on the "Naswa of Aryasamaj." Mr. Brookes speaking at night said that he was studying the Hindu literature for the last ten years and its effect on him was very great. They pointed out the organic solidarity of the Universe in that the separate portions of the universe were related to each other. He said, "Your Shastras are Universal. The railways and the press have linked humanity together. The cosmopolitan charm of the Rishies can reach the other parts of the world. You must be thankful to the differences of opinion and to foreigners and not try to shrink back into separateness, for the universe is all one and other people are part of the same organism. Economic conditions are making war impossible. India needs to learn this and youngmen ought to link the East and the West together and not treat the Westerners as different from themselves".

On 7th April, the Saraswati Sanmilan met again. Pandit Katvabkar presided. Essays on Vedic Detetta were read by Sanatak Indra, Pandit Jaganath Niraktrattan Indra, Pandit Jaganmohan Verma. Pandit Ghasiram, M. A., Vakil, delivered a most scholarly lecture on Vedic teachings. But the chief interest centred round the speeches of Sanatak Harish Chandra, Professor Ramdeva, and the great appeal made by Mahatma Munshiram. The scene after the appeal was most pathetic and solemn and money began to pour in from all sides. Rs. 62,000 were collected in cash and more money is still coming. The morning of the 8th April was devoted to Vedaramba Sanskar when 25 new boys were admitted.



Lecture on Co-Operative Societies in U. P.

On March 9 at 6-30 P. M. the Allahabad Christian College had the pleasure of hearing a lecture by A. C. Chatterjee Esq. I. C. S. Registrar of Co-operative Credit Societies in U. P. on the subject of Co-operative Credit Societies in these provinces. Mr. Chatterjee began by showing that the idea of Co operation is not foreign to the social life in India but is the basis of the joint-family system, which has been in force in this country for many centuries. The family as an associated unit is stronger than the sum total of the strength of all of the individuals taken separately. This is just what is aimed at in the Co-operative Societies in India—strength through union.

Mr. Chatterjee then pointed out the unique feature of the Indian industrial life : *viz,* that nine tenths of the people, either directly or indirectly are dependent upon agriculture. Anything which will strengthen the labourers, and increase the agricultural output will materially benefit the majority of the people.

When we examine the needs of the cultivators, we find that two are most outstanding : (1) that they shall be able to borrow sufficient capital to carry on their work efficiently ; (2) that they shall not be able to borrow more than they need. These two needs are not peculiar to the Indian cultivator but are the needs of the cultivators all over the world. Other countries have tried to solve the difficulties attendant upon these needs, and India has profited by their experience. In speaking of freeing the cultivators from the clutches of the mahajan, Mr. Chatterji spoke a word in the moneylender's defence : that although the mahajan frequently charges as much as 37 p. c., yet his risk is very great, and the expense in keeping that risk as low as possible is also considerable and perhaps only 10 or 12 p. c. of his charges are exorbitant. Yet the difference between a fair rate of interest and what the money-lenders were receiving was so great that Government resolved to make the attempt to introduce Co-operative Credit Societies, which had done so much for Germany, Holland and other countries of Europe. To meet the first need given above, societies were formed by grouping together not less than ten persons willing to be members of the society. Mr. Chatterjee said that the experience in these provinces was conclusively in favour of societies with unlimited liability : i. e., each shareholder was liable for the Society's debts to the full extent of his own personal property. At the start a good portion of the money controlled by the Society is borrowed from outside at a reasonable rate of interest. The security of those who loaned to the society consists in the fact that there are ten or more men bound for repayment, instead of one. So in this way the first need is met : viz, that of obtaining lonable capital at a low rate of interest. Mr. Chatterjee said that the experience of Societies in U. P. seemed to advise charging about 15 p. c., for at any less rate, the members would be tempted to overborrow. As a furthur precaution against this second need of the cultivator that he be kept from over borrowing,— Mr. Chatterjee pointed out that because of the unlimited liability of the other members, the many were all anxious that one should not borrow anymore than he needed for his cultivation. Each one is thus taught the wise use of capital, which is a lesson he very much needs. In these simple but efficient ways the two great needs of the majority of the people bid fair to be met. Mr. Chatterjee also called attention to the moral results : some men have been known to give up drink, and gambling and other evil habits because of the growth of self respect, and the desire to stand well in their society.

After the lecture was concluded, Mr. Chatterjee threw the meeting open to questions from those present, and many interesting facts about the practical operation of Co-operative Credit Societies were elicited. The meeting closed with a vote of thanks to Mr. Chatterjee for his interesting lecture and his kindness in coming.

OTHER EDUCATIONAL ADVANCES.

THE MOSLEM UNIVERSITY.

The Nizam's donation of five lakhs to the Moslem University has now been paid in. His Highness has also raised his annual grant to thirty six thousand rupees. Salar Jung, III, has donated a lakh on coming into his estate in the Hyderabad State and Nawab Muhayyuddin Khan, son of the late Sir Asman Jah, has given one and a half lakhs. The total cash in hand for the Moslem University is now 26 lakhs, leaving only one lakh more to be collected to bring the total to the maximum required.

The Nizam's Donation



Munificent gifts for the purpose of erecting a visible home for the University of London have been a long time in coming. But now the stream has begun to flow, and in its flow will undoubtedly gather force until the many hundrds of thousands required have been subscribed. An anonymous friend has offered £100,000 as a start, and the Drapers' Company offer £60,000. The trustees of the Bedford estate have offered a site for £50,000 less than its value, and the Duke of Bedford will give a personal donation of £25,000. Sir Francis Trippel, who, as the *Times* tells us, holds an option from the Duke of Bedford, for the purchase of the site, has undertaken, acting in an honorary capacity and bearing all incidental expenses, to raise £1,000,000 for erection of such new head-quarters for London Univsrsity as will be worthy of the capital of the Empire. The proposed site is the land that has recently been cleared behind the British Museum.

Munificent Gifts to the University of London.

Prof. F. G. Donnan, M.A. Ph.D., F.R.S., Director of the Muspratt Laboratory of Physical and Electrical Chemistry in the University of Liverpool, was appointed Professor of General Chemistry as from September 1st, 1912, in succession to Sir William Ramsay.

Sir William Ramsay's successor

Dr. L. N. G. Filon, M.A., D.Sc., F.R.S., at present Assistant Professor in the Department of Pure Mathematics at University College, was appointed Goldsmid Professor of Applied Mathematics and Mechanics as from September 1st, 1912. The appointment was made in connexion with the resignation by Prof. Karl Pearson of the Chair of Applied Mathematics on appointment to the recently established Galton Professorship of Eugenics ; and the title of the Chair has been expanded to include Mechanics.

Goldsmid Professor London Univ

Those who realize how largely the work of Sir Joseph Thomson has contributed, not only to the advancement of knowledge, but also to the reputation of England for producing original investigators of the highest rank, must welcome the announcement that His Majesty has conferred upon him the Order of Merit.

Sir J. J. Thomson, O.M.

At the annual dinner of the Cambridge Indian Majlis on March 2, Mr. H. E. A. Cotton, in proposing the toast of 'India' made some interesting observation on Mr. Gokhale's Elementary Educational Bill. He said :—

Cambridge Majlis

What was the good of such sentiments as those in the King's speech at Calcutta, if that utterance was immediately followed by a monotonous condemnation on the part of every local Government of the extremely moderate proposals of Mr. Gokhale's Elementary Education Bill? He hoped Mr. Gokhale would persevere with the Bill. Many of those who were opposing it were men who would be cutting a very different figure in the world if it were not for the fact that there was compulsory education in their own country, which enabled a boy to work his way from the humblest beginnings to the loftiest pinnacles of the Indian Civil Service. If the Bill was rejected systematic agitation should follow both in England and in India.

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Pennsylvania University U. S. A.

"Our own University continues to be the most cosmopolitan in the country. Nowhere else can be found so large a body of students collected from such widely separated sources. There is not a country in civilization unrepresented at the University, and there is spoken almost every tongue that has developed a literature.

"Of the 5,196 students, 229 hail from forty foreign countries. They come from Peru and Denmark, from China and Egypt and New Zealand. They are of all races, tongues and colors. A world's Congress could be collected in fifteen minutes in Houston Hall which would rival those which have been years in assembling. In addition, practically every state, territory and dependency of this country is represented. It is not believed that any other institution of learning in the world can make such a showing.

"The continued progress of the University is due solely to its inherent merit as an institution of learning. Its resources in money are small, its equipment is unexcelled, while its teaching force and its opportunities for gaining knowledge are unparalleled. There are perhaps a dozen other institutions with larger income, but our own University has survived and prospered, in spite of great financial discouragement. Its success is simply because it delivers to its students the intellectual goods which they seek."—Philadelphia "Inquirer."

$ 80,000 Bequest to the University

Among bequests of $180,000, to charitable and other institutions, contained in the will of Mrs. Joseph Drexel, which was admitted to probate on March 4, are the following.

$20,000 to the Archeological Museum of the University of Pennsylvania, for mixed collection of casts, reserving sufficient funds to keep it in order.

$10,000 to the hospital of the University of Pennsylvania.

$50,000 to the Archeological Museum of the University of Pennsylvania, to be used as the trustees of that institution think best

The University Museum is indebted to Mrs. Drexel for a wonderful collection of fans. Among them are two fans presented to her by Pope Leo XIII in December, 1903. Although bestowed upon her, the fans were virtually a gift to the American people, and as such were placed in the museum collection. The fans were considered priceless, having been used in papal processions since the pontificate of Pius IX.

WHAT OUR STUDENTS ARE DOING ABROAD.

The following are the marks obtained by the scholars of the District Council of National Education, Malda at the First Semester Examination of Wisconsin University U. S. A.:—

Khagen Mitra:—Biology	...	76%
German	...	76%
Baneswar Das:—Organic Chemistry		92%
Quantitative analysis		88%
Mathematics	...	88%
Drawing	...	79%

Marks obtained by Narendra Nath Sen Gupta, National Council of Education (Bengal) scholar at Harvard University in the First Semester Examination of the Second Year Courses:—

Æsthetics—95%, Experimental Psychology—95%, Educational Theories—95%, Ethics—95%, Economics—85%, French—85%.

He has been enjoying a Harvard College Scholarship of 500 dollars.

Marks obtained by Jnanadacharan Das Gupta in the First Semester Examination of the Michigan University U. S. A.:—

Pharmacy—85% Qualitative Analysis—85%, Mineralogy—90%, German—90%.

Psychology and the Teacher.

By Rev. D. O'Keeffe, M. A.
Queen's University, Belfast.

We live in a time of many and varied intellectual interests, an age palpitating with an almost frenzied mental activity, which seizes upon the most unpromising subjects, and works them up into complicated systems of knowledge. It is not surprising if, amid all this hasty intellectual construction, many of these new studies are still somewhat chaotic—groping towards the light indeed, with commendable patience, and even at times with dexterity, but still palpably not yet emerged into the clearness of day, and living, as so many people in the world contrive to live, mainly upon the promise of the future. I must confess that to me (and I say it with regret) the science of Education, to which all of us are in one way or another devoted, still seems to linger in this twilight of uncertainty.

It is not so long ago since attention first came to be fixed upon educational problems as a proper subject-matter for scientific investigation. You are not to misunderstand me here. References to educational problems are abundant even in comparatively early literature, and valuable hints and pregnant suggestions are to be met with from Plato and Aristotle downwards. But a scientific theory of education, an account of its aims and purposes on the one hand and the various methods it must employ to attain these purposes on the other, such an account in the thoroughly systematic form we call science, is a comparatively recent phenomenon. The pretensions of this "Theory of Education" would have amazed and staggered the teacher of even the middle of the last century, who would likely have seen in such an attempt to explain what education should aim at and how it should go about its task, a perverse effort to inoculate with unhealthy mystery the sound body of educational practice. What I desire to emphasize is simply this, that the so-called modern science of Education, about which we hear so much, is still in many ways in its infancy, that it is a highly complicated and discouragingly uncertain study, that it has not, so far at any rate, attained to fixity and exactitude.

This uncertainty in results is, perhaps, compensated for by an almost feverish interest in educational problems. For recent as the emphasis upon these problems is, it is in many ways already a mark of our time. The teacher of an earlier age was considered sufficiently equipped if he possessed the necessary minimum of information. Nowadays we are not content unless he is specially trained in the best method of imparting this information, unless he has some idea of the logical connexions of subjects one with another, and has acquired some insight into the complex workings of the human mind, upon a knowledge of which school work must ultimately rest. Hence the need for the teacher of the future of some knowledge of Psychology, which is simply the science of the mind, the science that discovers and arranges in order the connexions of mental facts and the laws of mental development.

Let us examine the matter for a moment under a somewhat different aspect. Education, as you know, claims to be not merely a *science* but also an *art*. The difference between the two is sufficiently obvious. Science aims purely at knowledge or theory. A particular science is simply a systematic body of knowledge about any subject-matter, as, for example, Arithmetic is the science of numbers. An art, however, aims not so much at knowledge as at production or practice. Thus we speak of the art of painting, the art of sculpture, the military art. The main point is that art aims at producing some definite effect as a picture or a statue. Now, Education is an art inasmuch as it aims at producing a certain effect upon those who are to be educated. Where the sculptor has before him the block of marble that becomes plastic in his hands and yields to his expressive chisel, the teacher has that far more plastic, far more subtly constructed and delicately responsive object, the child; and it is his task to mould that plastic matter to graceful lines, to imprint the habits of intellect, of will, and of emotion that it will carry through life and through eternity. This analogy is highly suggestive. Consider the extent and variety of the knowledge that the true artist (say the sculptor or the painter) requires. Firstly, a knowlege of his material and of his tools, of the technique of his art; then an intimate acquaintance with the various forms he is to fashion into his stone or imprint upon his canvas. Consider, to confine ourselves to a single point, the exact and minute acquaintance with the

science of human anatomy that sculpture presupposes. The sculptor must know the precise form and construction of the skeleton, the varying, ever pliable shapes and positions of muscles, tendons, joints. In addition, he requires that wealth of knowledge that lends enthusiasm, that supplies the subject and guides his hand in its translation into stone. And yet we cannot by mere instruction secure a sculptor of genius. So it is with the teacher. The teacher is an artist that deals, as I have said, with a marvellously delicate material, and it is obvious that without a clear and scientific knowledge of this material, it is impossible to secure sure and permanent success in the art of Education. The teacher must know the anatomy of the human mind as clearly as the sculptor knows the anatomy of the body. Hence the art of Education must, for its own special purposes, have recourse to various sciences, such as Psychology, in order to gain from them the knowledge it needs, just as the sculptor borrows from the science of anatomy his knowledge of the structure of the human frame, or as the military man learns from chemistry the nature and uses of explosives, or from mathematics learns to trace the path of the projectile.

Now there are two of the so-called philosophical sciences with which Education is most closely connected—Ethics and Psychology. From Ethics Education learns its aim and purpose. When we ask ourselves: What is Education for? What is its end or purpose? We find that it is not at all an easy matter to give a definite answer to this very in-offensive-looking query. This is where the science of Ethics comes to our aid. Ethics is the science of human conduct; it endeavours to determine the end of human striving and how that end may best be realized. And since Education is a process tending to fit us for life, since it is in addition a part of life, it is of importance that it should learn from Ethics what ends are really worth striving for. To explain in detail how the science of Education is related to ethical or moral science does not fall within the scope of the present paper. But suppose we have determined the end we desire to reach then the further problem arises: How are we to reach it? It is at this point that the science of Psychology can be of assistance. Recall to mind the situation we are considering. On the the one hand we have the teacher *ex hypothesi* bubbling over with information, and filled with an enthusiasm to communicate it. On the other hand we have the child to whom this information is to be transferred by no means inspired with a similar enthusiasm, and often enough, with the keen intuition of childhood, distrustful of teachers and *hoc genus omne*. Roughly we may say that we have determined from Ethics and elsewhere that the teacher's aim is twofold—firstly, to communicate a definite amount of information to the child, and secondly, to help to shape the child's character. It is of importance to remember that these two purposes or aims of education cannot be sharply separated. We know from Psychology that it is quite impossible to communicate knowledge to a child without influencing its character. Even the study of arithmetic may have an admirable formative effect. But keeping this in mind we may roughly suppose a twofold aim for the teacher—the communication of knowledge and the formation of character. It is here that psychological information is of importance, for it is obvious that without some knowledge of the child's mind, of its little world of intellect, of will, and of emotion, the teacher can scarcely be sure of his ground. He must get some idea, as it were, of the structure, the make-up of the mind—as the sculptor for his own purposes would study the structure and make-up of the body—and knowlege of this kind is in fact indispensable to a scientific theory of Education.

The question now arises: What is Psychology and what is the nature of its problems? And here we find ourselves in a difficulty wich springs simply from the fact that it is imposible fully to realize the definition of a science until one has worked one's way through that science. Logically, the definition of a science should come rather at the end of that science than at the beginning. However, I hope I can succeed in describing to you with sufficient accuracy, though merely in outline, what Psychology is. To fill in this outline, to add the details to this rough sketch must be the work of time. Sciences cannot be understood from their definitions, but only by, so to speak, living through them, realizing their various problems, and thinking out so far as possible their various results. Psychology is the science of mind. It studies mind or soul in

all its varied manifestations. Its purpose is simply to discover the laws and principles to which mental like corporeal facts are subject. In its widest sense it includes Animal Psychology and Human Psychology. But for our present purpose we may confine our attention to Human Psychology, the aim of which is simply to discover and formulate the laws in accordance with which the human mind works. For example, suppose, I can flatter myself so far as to suppose that the present mental attitude of my readers is one of attention, this will furnish an admirable example of a psychological problem. What is attention? How may it be analysed? On what conditions does attention depend? What at any moment determines the direction of attention to one object rather than to another? How is it related to interest? Is it pleasantly or painfully toned? These are some of the questions that Psychology in the case of this particular problem endeavours to answer. We may say, then (though this is not rigidly accurate), that for our purposes Psychology is the study of human consciousness, its facts, its laws its growth. All the varied facts of mind fall within the scope of this science—ideas, cognitions, imaginations, dreams, memories, judgments, reasonings, 'willings,' emotions—anything in fact that can take place within a mind. This being the subjectmatter of Psychology, it might at first sight appear that we are here confronted with a task of hopeless difficulty. When we think of what goes on in our own minds throughout any fairly lengthy period, it seems hopelessly complicated and involved; not governed apparently by any fixed laws; a kind of marvellously intricate interlacement of ideas and feelings and imaginations and memories, thrown together almost it might seem by 'the magic hand of chance.' Now this is what the psychologist must study; he must clearly describe these facts and arrive if possible at the laws of their interconnexion; he must disentangle this complicated mass, and find a ruling order amid all its apparent chaos.

And how is he to set about his task? What, in other words, is to be the *method* of Psychology? Let us refer again for a moment to an illustration. A chemist or a botanist studies a particular subject-matter scientifically, but he has no difficulty as a rule in getting at his facts. The botanist has his collection of plants, and the chemist has his various elements. They can examine these objects under various conditions, experiment upon them, take them to pieces, analyse and decompose them. It is not so with the psychologist. Psychological facts cannot be dealt with in the same way; we cannot, for example, take a memory or an imagination and analyse it as a botanist would a flower. You cannot put the mind of Tom Jones or Maria Smith in a phial and examine them in your leisure moments. Thus the Psychologist has to face many preliminary difficulties of method from which other sciences are free. You will notice in the first place that, since the subjectmatter of Psychology is the human mind, we find ourselves in the awkward position that each person has *direct* knowledge of his own mind alone, and hence this is the only object that he (if a psychologist) can study *directly*. It is as if the botanist were confined to a single plant of any species. If any one of us desires to conduct psychological investigations, for example, where is he to get his materials? Each one is directly aware only of what is going on in his own mind, so that what he must study at first hand is something to which in a certain sense he alone has access.

The result of all this is that the primary and direct method of the psychologist must be what is called Introspection—which is simply the turning of the mind in upon itself in order to discover what is taking place within it. It is easy enough to understand what Introspection is, but it is an extremely difficult thing to put it in practice, and theoretically it is difficult to comprehend even how it is possible. Suppose, for example, you are asked to remember something—let us say the appearance of some room with which you are familiar. Many problems may be suggested regarding this memory-image. Is it a clear picture coming like a flash giving you as in a painting the room, the arrangement of the furniture, the nature of the light, the colouring of the wall-paper, etc.? Do you get a clear memory picture of a visual type—something you can hold and look at? Or is the memory picture (as in my own case, because my pictorial imagination is not good) something vague, indefinite, fluctuating, surging up somehow in waves, requiring to be gradually pieced together? To follow such an experiment as this requires the use of Introspection and enables us to realize in a genera way how difficult it is. Or again, consider

the pecular experience (supposed by some psychologists to be universal) called by the French *'fausse reconnaissance'* or the *deja vu.* Suddenly in the midst of some complex situation the feeling comes upon us with strange coerciveness that we have lived through all this experience before, have had these same feelings, thoughts, emotions. We can fix within certain limits the psychological peculiarities of this remarkable psychical condition—the feeling of inevitability, the conviction that we can foretell what is to happen next, the peculiar duplication of personality that usually attends this condition. The whole experience we are living through has a halo of familiarity, as of some thing vaguely remembered from a distant past which yet we cannot definitely fix and localize in our previous life. Now if you have followed in your own minds the account I have given of this experience, and if you find that it describes (accurately or inaccurately) what has often happened to yourselves, then you have been making use of the psychological method of Introspection, or rather I should say of Retro spection. These examples may erable you to understand what the primary method of psychological investigation is. It is extremely difficult just because it involves a kind of doubling of the mental attitude, requiring that we attend at once to the object—the familiar room in our example—and then attend to the psychological peculiarities of our mental state. If I am studying the psychology of attention I must at once attend to some object, and at the same time attend to the process of attention itself. This is a fundamental difficulty and it must be admitted that it can never be quite over come.

We are not, however, confined altogether to the method of Introspction, for we can also employ what are called Objective Methods. The possibility of employing such methods arises simply from the fact that the mind has the power of externalizing itself, of expressing itself in certain outward signs or symbols, and by inference from these we can gather something of the nature and laws of mind. Under this objective method will come all that we can learn of other minds, also the study of the human mind as revealed in language, in history, in art, in science, in the thousand ways in which humanity gives itself expression. This objective method is of importance for the educationist because this is practically the only way in which the child-mind can be studied. Children are almost altogether incapable of Introspection; we can only gather the way in which their minds work from the manner in which they conduct themselves and give themselves expression.

Having determined the nature of the psychological problems and the character of the methods employed in their solution, I now return to the main question of this paper, the value of psychological studies for the teacher. When attention first came to be directed to this matter, there was naturally a tendency on the part of advocates of psychological training to exaggerate the importance of the results to be gained by the teacher from a study of Psychology. Some oversanguine psychologists, and many of that irritating type of persons who, having nothing paricular to do, devote their energies to criticizing their neighbours, saw in this study the cure for all educational ills. They concluded, with more rapidity than logical conclusiveness, that now all educational problems would be finally solved, and a utopian school-life succeed, in which the acquisition of knowledge would become a pleasant interlude for the children, and in which the teacher could be so trained that he would know at a glance how to deal with even the most difficult educational recalcitrants. But unhappily experience lent so little force to this rosy outlook that the opposite view, namely, that such studies are quite useless for the teacher, came to be held with equal vehemence and as little logic. Some persons are impressed with the fact that teaching is a matter of personal power, of a certain type of character, alert, responsive, sympathetic, quick to penetrate the aspect of difficulty that a subject presents to the child, eager to anticipate its weakness. They cannot convince themselves that any machinery can be devised for communicating this gift or that any knowledge of the workings of the child-mind can take the place of this personal relation. In this, I think, they are largely correct. It becomes, therefore, a matter of importance justly to estimate the results that the teacher may hope for, from a study of Psychology.

What exactly will the study of psychology do for us? It is a fatal mistake to misconceive the exact scope of its usefulness. If I am confronted with this

particular child, 'Maria Jones' or 'John Smith' no *science* will enable me to deal with them directly. They have an organization of body as well as of mind which is altogether peculiar to themselves. You will never in the course of your experience meet a child exactly similar to Maria Jones—she is a phenomenon in one sense altogether apart, unparalleled (shall I say unmatchable?). Science deals with universal aspects and never with particular facts as such. In the case of such a child I can have certain guiding principles, certain rules, valid upon the whole and in the long run, but which the unique individuality of Miss Jones may set at defiance and bring to naught. You all know that children are infinite in their variety; you cannot compress them into a formula, or gather up the delightfully subtle wealth of their character in any principle or any rule. They are as wild and as variable as nature herself—as unforeseeable and as unexpected as the tossing waves.

But yet Psychology does give us definite guidance. It cannot replace, nor does it desire to replace, the personal relation between teacher and pupil. But it will give the teacher the rare advantage of guiding laws and principles. It will in addition develop in the teacher (and this is a matter of great moment) a certain mental attitude, a bent of mind, a temperament which is of the greatest importance for schoolwork. It will make him alert, observant, cautious, conscious of difficulties, reverent of God's most delicate handiwork. Such a teacher will have the rare stimulus of ever new interest in his work. To him school-life teems with interesting problems. He is constantly delighted with new phases of the child mind, with new revelations. He knows in addition (and this is no small matter) how to avoid mistakes—such as overburdening memory, etc. His wider out look makes him keenly responsive to every atmospheric change of the children's minds. His knowledge gives him the clue to this marvellous labyrinth. Actions and expressions are for him suffused with meaning. To the uninitiated, to deal with the child mind is like entering at midnight one of those intricate Gothic buildings of mediæval times. Everything seems strange, and unfamiliar, and fantastic. Psychology furnishes a light which sheds meaning upon many hidden beauties, even if it does not enable us to make out lesser details. It is not difficult to recall apt illustrations of all this. For example, to the ordinary teacher the dull child is simply a torment, a clog upon the progress of the class; to the pyschologically-minded teacher it presents a problem of rare interest; the task of entering the citadel of that mind calls for his nicest discretion. Often it is merely a question of overcoming some initial lethargy or compensating some earlier neglect.

So far I have shown what may be called the 'temperamental' value of psychological study for the teacher. I now pass on to consider in the briefest outline some detailed educational questions and to show how they are influenced by psychological principles. To begin with, a multitude of problems centre round the person of the teacher and clamour for scientific treatment. The teacher indeed has a psychology of his own. Not everyone is fitted to be a teacher, and Psychology might well be helpful in enabling us to determine the minimum requirement. Then there are various types of teachers—the learned, the dull the mild, the irascible, the gushing, the explosive the hopelessly uninteresting, and so on, *ad infinitum*. We might tabulate them (not in so detailed a fashion as their pupils do) after the manner of Paulhan's *Les Caracteres*. The problem, again, of the precise kind of training, intellectual and moral, that the teacher should receive, calls for scientific treatment. Here, of course, one is treading on dangerous ground—ground strewn with the bones of previous travellers. The older type of educationist favoured in the primary teacher a kind of general diffused information of a great variety of subjects; nowadays the best authorities insist that there should always be a more extensive acquaintance with at least a few. There are most important psychological reasons for this view connected with the problems of interest, emotional enthusiasm, apperception, and so on. The problems under this head would require detailed treatment and cannot be touched upon further here.

Under the head of school organization almost every question lands us at once into the midst of psychological problems. Never more than at the present time are questions of this kind discussed, unhappily the most part by people who have no scientific knowledge as guiding principle and are violently carried away by fads and eccentricities. It is a national misfortune that we have not amongst our teachers a body of experts with the combined advantages of practi-

cal exprience of school work and a knowledge of the fundamental laws of mind upon which educational theory rests. It would have saved us from many of the lamentable educational errors of the past. This is not the place to enter into the detailed questions of school organization—such questions e g, as the arrangement of school time tables, which must constantly keep in view the laws of mental fatigue, the conditions of easy apperception, the relation of attention to variety and novelty of stimulus. In such problems detailed psychological knowledge is helpful at every point. Nor is it without advantage (though it adds zest and keenness to our indignation) for the consideration of the serious problem presented by the constant changing of school programmes by the central authorities. This is not unfrequently a ruinous educational error, and indeed it may be stated generally that no problem demands more delicate psychological discrimination.

Naturally the focus of interest in primary education centres in the person of the child. And here Psychology and its laws meet us at every step. Let me refer to a few points by way of illustration. Consider, for example, the kindergarten system. Some persons are positive lunatics where this system is concerned—the word seems to act as a magic spell upon their intellects and altogether to deprive them of common sense. The method rests upon important psychological principles connected with attention, interest, pleasure-pain, etc. It is an effort to make use of the child's sense-curiosity in favour of its education. The child is incapable (it appears) of grasping abstract ideas as roundness, or length, or perpendicular, but will be quite interested in a round ball or a long stick or a perpendicular pencil. We make use of this sensory interest to get the child gradually and pleasantly on to the more abstract notions. This method is admirable, but it raises important side issues. Clearly it should be rigidly confined to the lower standards and not allowed to pervade the general school life. Then there is the real danger of the view that school life is play and pleasure instead of serious work. It is most important to have the child realize early in its career (some people unhappily never come to realize it) that nothing really worth having is to be got without working for it. Of course, school life should be made pleasant (our ancestors neglected this important truth), but it should be pleasant business, something that requires constant effort, like the pleasures of the fine arts. You cannot appreciate the highest kind of poetry or painting or music without effort and education. Nothing could be more disastrous than to give children the notion that life is play and that serious effort is not called for. I must confess that I have serious misgivings about the actual employment of the kindergarten method in practice. It seems more suitable to the child that has not average abilities than to the vigorous minded type so common in our schools. It calls for more than skilled employment. What would you think, for example, of the application of the kindergarten system to a youth who gives the following account of himself :—

"I have no remembrance of the time when I began to learn Greek: I have been told that it was when I was three years old. . . . I learnt no Latin until my eighth year. At that time I had read, under my father's tuition, a number of Greek prose authors, among whom I remember the whole of Herodotus, and of Xenophon's *Cyropaedia* and *Memorials of Socrates ;* some of the lives of the philosophers by Diogenes Laertius: part of Lucian and Isocrates' *Ad Demonicum* and *Ad Nicoclem*, etc."*

This is but a small selection from the amazing programme that this child managed to assimilate, and I quote it, not at all as a normal instance, but merely as showing that it is possible to underestimate the keenness and ability of children.

I can only barely direct your attention to the many problems connected with memory, attention, apperception, association, habit, and so on, that enter so intimately into educational practice. Consider, for example, the problem of "cramming." This is a question which occupies the focus of public attention especially at such times as the results of examinations are published. And it is amazing how very few people know what it really means. I have myself (in the course of my very brief but not unvaried experience) met fond parents who denounced whole systems of education as "cramming," upon the very intelligible but not universally acceptable ground that their son or daughter, who was gifted with rare intellectual powers, acquired mainly through hereditary transmission, had failed to pass the required test. What

* Mill, *Autobiography*.

exactly they could have meant I have never been able to discover. It is unnecessary to point out that a period of intense and rapid revision just before an examination is not "cramming." Such a process is quite necessary to success. Cramming is rather "that way of preparing for examinations by committing 'points' to memory during a few hours or days of intense application immediately preceding the final ordeal, little or no work having been performed during the previous course of the term." * Such work is largely useless. The psychological reason for this is that knowledge acquired in this way is *unsystematic*, unorganized, and disconnected; it has no permanent place in the general system of our minds, and rapidly vanishes when the immediate test is over. To put it technically, we have not properly *"apperceived"* such knowledge—it remains unassimilated. It simply cannot survive because it has come to us peacemeal, "a thing of shreds and patches." Systematic unity and organic interrelation are of vital importance in securing permanent memory. If you learn the words of a proposition in Euclid by heart, you will not remember them very long, unless you have abnormally developed verbal memory. But if you understand the proof and grasp the interrelations of its parts correctly, you will likely never forget it. Other problems crowd in upon me, but space will not allow me to do more than merely indicate them. What, for example, is the best method of acquiring a foreign language or a knowledge of mathematics? Is the most rapid way of acquiring a knowledge of French or Irish the best way from the stand point of general culture? And so on *ad infinitum*.

I fear, however, that I have exhausted your patience, if not my subject, and that my paper has been prolonged to such dimensions, as might seem to betray an ignorance of the important psychological fact that the human mind is normally at its best for only about three quarters of an hour at a stretch. But now, at length I have reached the end. My purpose has been attained if I have succeeded in convincing you that there is here a useful, and perhaps I may say not uninteresting, field of study. Anyone who takes up teaching as a serious profession cannot afford to neglect Psychology.

D. O'KEEFFE.

* James, vol. i., p. 663.

Future of man and his Civilisation.

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There is a common belief, at least in some quarters, that the present civilisation will be a progressive one. No wonder, that the ever increasing power of science would raise such hopes in many minds. Science has created wonders and it promises to do more. It is even ambitious enough to hope to discover in near future the enigma of life, and also to create bread and meat out of the simple inorganic elements present in the air, the water and the soil.

But there are pessimists (as there are pessimists every where) about the future of man, of Science and of civilisation. At least there is no harm in knowing what they say. Perhaps they may be right to a small if not to a great extent. Sometimes our enemies are our best instructors.

There are some who say "Look at the audacity of the man of science! He forgets that he is a particle of dust—nay much smaller than a millionth fraction of dust in comparison to the immense world, and with his tiny brain (which after all, may have been prepared in a wrong way) he wants to solve the riddle of the universe and other equally magnificient problems. According to his own admission he has no means of knowing what the real world around us is? Has the flower that we see before us, any real existence? A certain number of vibrations in the ether, stimulates a certain number of cells of our retina, which in their turn send some kinds of impulse to the brain, which perceives the sensation of the sight of a flower. Is it not strange that under such circumstances—that is, the reality of the world being unknowable to us—people should bother about the composition of the stars, the age of the earth, the structure of the atoms and other equally amusing problems. Why not restrict your energy to the production of a new toy, a new colour, or a new sweet-meat, the benefit of which may be enjoyed by the whole of mankind—however transient and unreal the happiness thus obtained may be". The man of science enraged

at the vulgarity of the pessimist returns him in his own coin saying. "We are not always going to create new amusements for the mob, we want to make some for the cultured as well ".

Others say—"What after all has science done for mankind ? Is the civilised man of to-day any way happier than the man that lived a hundred years ago, or a thousand years ago. If civilisation has produced new kinds of comforts, it has certainly created as many new sources of unhappiness also. After all, the civilised man of the palace, with his motor cars, his luxurious habits, delicate health and imaginary sorrows (created by a refined taste) may not be much happier than the uncultured man, a thousand years ago, who tilled his soil, ate his coarse meal and slept soundly in his little hut. If science, in order to alleviate human suffering has created new discoveries and new method of combating diseases, it has created also new modes of killing man successfully and of inflicting new pain on him".

The man of science says "Granting that there is no method for determining the absolute happiness of mankind of different periods of time still it may be safely said that the present civilisation is much grander than any of its forerunners. We have now succeeded in conquering nature much more effectually than our fore fathers, and we have got a much better method of recording, preserving and diffusing knowledge. Even in case the present civilization goes the way its predecessors went, the next one that follows it, will at least be a greater one, built as it will be on the experience of the present civilisation. So the different human civilisations of the past and future will form a series of curves—each consisting of an up stroke (showing the rise of the civilisation) and a down stroke (showing the fall of the civilisation) but each curve on the whole rising higher than the one which preceded it."

Let us now examine how far the optimistic view about the future of man and his civilisation is tenable.

First of all there is the probability of a socialistic revolution. The forces that preserve the modern society may become weaker than those which are trying to disintigrate it. The Malthusian theory of increase of population, the facts that the unequal distribution of wealth as well as the differences in the conditions of the poor and the rich become much more acute after civilisation has reached its zenith, also, after this period the lower classes in society, who are to profit by a social disorder, multiply much more rapidly than the middle and higher classes, who are interested in the preservation of civilisation,—these all point out that a social revolution must come at more or less remote time. How far that revolution, will affect the present civilisation it is difficult to forecast now. That the mob of that time, may come to the conclusion that science and the scientists are the slaves of the capitalists and thus are the real cause for the unequal distribution of wealth and they may fall upon the libraries and the laboratories and those engaged in the persuit of knowledge, and begin to destroy them, are things not altogether out of the range of probability.

Then we have got the physical theory not only for the disintigration of civilisation but for the destruction of man as well. This follows from the theory of the degradation of energy. The beauty of the creation as well as the existence of man and other animals and plants, depend upon the unequal distribution of energy in space. If the energy were equally distributed in space then there would have been no man, no animals, no plants, no clouds, no rain. How dreary and ugly would that world have been then. But alas, such according to the theory of degradation of energy, is the fate of our dear world. It is the law of nature that energy should tend to be diffused in space. When it is being thus diffused it creates its wonders ; it can act that way only and in no other way. The Sun is our great storehouse of energy. Every moment it is giving out immense quantity of energy in the shape of heat and light. Of what use is this radiated energy of sun to other planets and stars we do not know but to our earth it is of inesteemable value. This radiated energy of the sun creates the clouds, wind, rain, it also creates plants and the animals

that live on plants. The energy stored in coal, the energy of the water-fall or oceanic currents are nothing but the energy of the sun. The reader who is anxious to know more about the wonders done by the sun is referred to some Text Book of Physics.

The sun has been radiating energy in the shape of heat and light—for how many years it is difficult for us to conceive. The store of sun's energy is immense but not unlimited. Every moment the particular space filled by the sun is losing some energy while the sorrounding space is gaining some. Time will ultimately come when the sun, the earth and the intervening spaces will all be of equal temperature. When the energy will thus be equidistributed in space, no work will then be possible and no life will then be able to continue here. So the theory of Degradation of heat makes a sure prediction that the human civilisation, as well as the fate of man is doomed.

From the chemists stand point also a similar doom might be predicted at least for human civilisation if not for man also.'

We have already pointed out that beauty as well as life in creation depend on the unequal distribution of energy in space, but they depend none the less on the unequal distribution of matter in space, also. If all the things on the world were uniformly mixed up and distributed in space will any life be possible then ? Or, to make the point clearer, imagine what would take place, if all the different substances of earth (not to say of world) its iron mines, gold mines, coal mines, cities, marble and various other rocks, fresh water and salt water and every other thing were thoughly mixed up in a machine ? Will any life or any civilisation be possible then ? At least this can be safely said that no higher forms of life would be able to live then. It is also conceivable that if the mixture be carried on much less thoroughly than we have spoken of above still it will affect seriously human civilisation as well as higher forms of life.

Energy has a tendency to get diffused in space ; the different kinds of meterial substances on earth have also a tendency to get mixed up with each other. The diffused energy can not be utilised by men and animals. The material substance which gets mixed up with soil, water or air may also be said to have undergone degeneration—it has been transformed into a form which can serve little or no purpose in civilisation, a few examples will make this point clear.

First of all take the example of coal. It is an important material substance obtained from the mines. When extracting it and carrying it from one place to another a considerable amount of coal breaks up into fine powder and ultimately gets mixed up with soil. This coal dust can never be extracted from the soil by man. The main bulk of the coal is consumed in different ways. What ever these methods of consumption may be it is quite certain that ultimately all the coal breaks up into simple inorganic substances of which the ash mixes up with the soil, the water and carbon dioxide unites with air. It is not conceivable that man will be able to re-extract coal from these sources. So we may say that though not a single particle of coal has been distroyed still it has undergone degeneration—a change of form from which it will never return to serve any purpose of man as fuel.

Iron is also a very useful substance. It occurs in nature in the form of various ores—from which pure iron may be easily prepared. The metal iron is used by man in various ways—in the production of tools and machinery. It is every body's experience that iron things are not ever lasting. It is constantly being rubbed down by wear and tear. The particles thus removed mix up with soil. A padlock after several year's use becomes wrong and the owner throws it away. There it rusts and the dust particles mix with the soil. All iron must ultimately be converted into rust. The rust (oxide of iron) easily breaks into minute particles, which can easily diffuse with the soil. Nobody can expect to recover iron thus mixed up in the soil. From the ore we get the highly useful metal—iron ; from iron we get the fine rust particles—a degraded form of iron from which it can never be recovered.

What has been said of iron applies to other metals also. The metals occur in nature in

the forms of ores. These can be easily worked up and pure metals are obtained. Various useful things are produced from the metals but ultimately all metallic things due to wear and tear or oxidation become transformed into fine particles which are mixed up with the earth—and diffused in such a manner that these can never be extracted from the soil. It is every body's experience that a new copper coin is much heavier than an old one, and the weight of a gold ornament after several year's use decreases considerably. What has become of the copper or gold so lost? They have been transformed into fine particles and mixed up with the earth. Can you ever dream of this being recovered in the shape of metal?

In case of other useful substances, we find that they are also constantly being degraded from more important state to less important or unimportant state. Sulphur is found in ore and in free state; from this sulphuric acid is easily prepared. The sulphuric acid after being used in various manufacturing processes unites with soil and earth. Chalk, lime stone, porcelain clay, marble and all mineral substances in time break down and unite with the soil.

So we find that most of our important minerals are being constantly wasted. The quantity of these things in earth may be very large—but limited. So it is easy to predict that at some future date, which may be different for different things, all these useful substances must come to an end. That this famine of useful materials will remarkably alter the aspect of civilisation can also be easily foreseen.

It has been said by some great chemist that the present civilisation rests on four legs—these being the coal, iron, sulphur, and copper. Just conceive what will take place if the coal supply of the earth is stopped. The railway and the steamer traffic will stop at once. The huge dreadnaughts will be of no use to the military people, the factory would come to an end and with them will end the cheap literature and various useful things and luxuries necessary for modern man. As a matter of fact the whole civilisation will be upset within a year or two. Man will be clad as barbarously as in olden times, and they will be busy breaking their chests and doors to get fuel to cook their food.

Want of iron will also bring about a similar fate. The uses of iron are too many and too well known to require any enumeration here. Within a year after the last iron mine stops working people will be busy breaking railway lines and ships to get iron for preparing their crude ploughs and spades for tilling the soil and their rude implements of war.

Sulphur is also a very important thing for modern civilisation. There is hardly any chemical industry which can do without sulphuric acid—a product of sulphur or sulphur ore. Sulphuric acid is necessary for nitric acid and nitric acid for various explosives. So one of the greatest discoveries of modern science—the new explosives will come to an end for want of sulphur.

Copper is another highly useful metal; without it the electrical works which can ultilise the energy of water falls etc. will come to an end. The electrical tramways and various other electrial factories will be of no use for want of copper.

The want of fuel and of lime stone will oblige man to build mud huts again.

Want of lead will affect printing process very materially.

It is now easy to understand that most of the useful materials on the existence of which the present civilisation rests will come to an end at a future time.

With them the civilisation will also stop and barbarism will return again. The time when this famine of material is to come will depend on the extent of present and future civilisation. The greater the civilisation the greater will be the consumption and therefore the waste of useful material.

So civilisation is not an unmixed good when considered not from ours the present generation's point of view but from the point of view of humanity. The civilised man might be likened to a spendthrift descendant of a generation of misers. The miser is the barbaric man, who used the earth's hoarded wealth with extraordinary

stinginess and handed over an enormous wealth to his spendthrift descendant—the civilised man. The wealth which might have comfortably sustained a number of generations began to be squandered lavishly on luxury and came to an end in a few years.

The spendthrift might become ruined much sooner before his father's hoard is completely wasted. There might be some hidden store which he may be unable to discover. Thus he may become a poor man when a considerable wealth may be hidden in his house. A similar fate may await the future man. In time of his dire need he may not be able to discover or utilise some very important wealth. Thus he will be reduced to barbarous state much before the real wealth is exhausted.

From the above considerations two important conclusions may be easily drawn :—

(i) In past time civilisations may have existed and come to an end, apart from other causes due to the want of materials on which that civilisation rested.

(ii) Political Economy is not an accurate science. A country which possesses enormous materia resources but is unable to work it now is not necessarily more unfortunate than another which is rapidly working up its resources. A century or two hence perhaps, she shall have to pay heavily for the wasteful expenditure of her wealth which she is now doing.

We have not as yet stated two very important things which will affect very materially the future of man and his civilisation.

The fertility of the soil (about the extreme usefulness of which no body is sceptic) has a tendency in nature to undergo deterioration. And this natural tendency is much more augmented by civilisation. Out of nothing nothing can be produced. The corns, fruits, vegetables and various vegetable products that are obtained from the soil must be present in or near it. As a matter of fact the corns and fruits contain part of the mineral resources of the soil and the air on it and water. As there is excellent arrangement in nature for the circulation of air and water we need not trouble about the fate of air of these substances and of water. But the fertility of the soil depends on its mineral constituents. It is true that there is some arrangements in nature for the circulation of nitrogen (though I do not consider it to be a very efficient one for reasons stated in the note below)*. But there is no means for the circulation of such important substances as potassium, sulphur and phosphorus, calcium and magnesium. But these are also as important for plant life as any thing else.

Every year our lands are being washed by rain. The rain water pours in to the rivers which again carry it into the sea. But the water while washing the land dissolves and carries a certain amount of mineral substances also. Thus every year an enomous quantity of our most useful salts are being carried to sea. The sea is getting every year more and more saline Could any body ever expect to recover these important salts from the sea water ? And this waste of the fertility of of our soil is being much augmented by civilisation. How ?

Cities are the products of civilisation. In a semicivilised or barbarous state of society men live in very small villages. In that state of society removal of fœcal matter is of no moment. The excreta of the savage man is left on the soil which provide him with food. When he dies his body also is left on the soil where it is partly devoured by animals and partly decomposed and mixed up with the earth soil. The animal's excreta and dead body fare a similar fate. Thus the earth, on the whole, receives back what it lost in the shape of various vegetable food.

But during civilisation this circulation of mineral matter of the earth is interfered with to a very considerable extent. Civilised men reside in cities but they have to depend on villages for their food. So, immense quantities of food material in the shape of rice, wheat, vegetables and cattle are removed from the villages to the cities. That means that tons of phosphorus

* The bacteria also requires for their life a certain number of salts ; if these are absent from the soil no amount of free nitrogen can make it thrive well.

and potassium and calcium etc., are removed from the villages to the cities never to return again. It is conceivable that at first the lands adjoining the cities would improve in fertility. But beyond a certain limit an extra deposition of mineral matter on a soil is not useful but positively harmful to it. And a large quantity of salt is much more easily washed from a soil than a small quantity which is retained by the soil with considerable amount of tenacity.

When civilisation assumes portentious dimensions--when huge cities are built, the disposal of excreta becomes a matter of considerable difficulty and annoyance. And ultimately all nations maintain the sanitary conditions of their cities by pouring out their excreta into rivers—thus throwing into the sea an enormous quantity of highly useful manure, which can never be recovered from the sea again.

There is another danger which awaits man and his civilisation. Just as water has got a tendency to come to the lowest level, so has every other substance in nature a tendency to come to the lowest level. Gravity which is so eminently successful with water is trying her best to make the land also level. The solid substances try to defy the power of gravity, but she on her turn is awaiting for an opportunity, and is ready to utilise it the moment it comes. A bird scratches the top of a hill, a hooped animal while running loosens some of the mountain soil which are blown down by the wind. The glacier, the rain and rivers are every year carrying immense quantity of soil and rock from the land to the sea. Hence it is conceivable that the highlands of the earth by the various forces of nature and the rubbed material will be carried by wind or water to the lowest level of the earth. It is true that this process will be beneficial to mankind for sometime as new lands for cultivation will be formed by the alluvial deposit. But by and by the same process will be harmful, the rivers will become more and more shallow. Certain number of great rivers are extinct even now.

Then this process of levelling will go on and the whole surface of the Earth will be a vast plain covered by water several feet deep. But that is not the only harm. On account of the loss of the great mountains, rain will be more and more scarce. The utility of mountains and cold air for rain making will be quite obvious. For want of these there will be little chance of rain in many civilised countries of the present time. There are other causes to interefere with the production of rain. The sun which is getting weaker every year is unable to produce the same amount of water vapour which it produced formerly. Secondly the sea water of the present days, which contains much greater amount of salt now than at any other time before, resists to a much greater extent to the evaporation of water on account of the greater amount of salt it contains.

The salt particles having an affinity for water must resist its evaporation to a great extent. Thus though the sun will be less powerful in future the earths' source of pure water supply will be materially interfered with.

Then of course it is quite conceivable that man and a great many territorial animals and plants will be unable to live there. But this will only takes place if things go on in the same way as they are going on. But who knows there will be no change in the course of events. Surely we have not as yet discovered all the laws of the universe.

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DIVISIONS OF PEDAGOGICS.

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(i) Historical.

Both the historical and the philosophical methods must be combined for the establishment of the science of education. The investigation of such pedagogic problems as the meaning of education, its necessity, its object and its contents, its influences on the human mind and general principles or universal rules if any for the guidance and control of education requires this two fold study.

The science of education has consequently to be divided into two distinct branches. In the first place, we have to describe the principal educational systems that have been established in different ages to meet the varying needs of societies. In describing each system we shall discuss the lines of education and the theories of educators, the aims and objects of the educational body as well as the ideals of the society. We shall try to get some idea of the position of the teacher in society, and the relation between the student and the teacher, we shall also have to explain such topics as to how the subjects for study were chosen and what means were adopted to impart moral, political and religious instruction. The governmental or administrative questions regarding educational management, control and government, have, more over to be considered in addition to the discussion of the methods of teaching adopted and the pedagogic machinery and apparatus used. An account of the educational systems of the world will thus furnish us with the various chapters in its history and the different stages of social evolution. In this way we propose to give a brief sketch of the educational ideals and practices of the Hindus, Greeks and Egyptians of the ancient times, as well as to study the pedagogic systems of Europe in the middle ages and to survey the chief universities of the modern world This history of education will not be treated in a chronological order but according to the different ideals of education followed by each nation. Our object will thus be to describe some of the principal landmarks, and only the chief types of educational organisations of the world and thus present some of the specimens of human civilisation and not to give a full history of the education systems that represent the successive stages in the cultural growth and evolution of Mankind.

(ii) PHILOSOPHICAL.

The historical inquiry will be supplemented by a philosophical investigation. Such questions as the following demand answer in this branch of pedagogics, *viz.*, What is education ? What is the influence of education upon human mind ? Is there an ideally best system of education ? What are the theories of education ? Why do changes in the system of education become indispensable with alterations in the conditions of society ? Are the varieties in educational ideals and systems justified ?

The philosophical method will vindicate the varieties in educational systems and types of educational policies revealed by history. The discovery of the particular systems of education that is adapted to the nature and requirements of the people of this country will of course be the function of the philosophical method. For the need of special arrangements for special circumtances, and the relativity of each educational ideal to the conditions of life and thought to which it has to adapt itself are the basic truths of this method of inquiry.

Human Life a Process of Natural Development.—Man is born with an endowment of certain powers and faculties. These powers and faculties grow and develop naturally under the influence of the surrounding forces of the world. The forces and powers of nature, the objects in the physical world, the society, the state and various other institutions of civilization are the factors that go to make the whole environment of man and spontaneously help in forming the character of childhood and youth. The moulding of life and habits and the growth of personality and individuality are natural processes which go on even if unaided by any special arrangements made for the unfolding of men's latent aptitudes and capabilities. Constituted as man is, he is constantly drawing his sustenance and materials for the building up of his physique and character from the physical and social world without. It is the characteristic of a living being to utilize in this way the forces of Nature and assimilate the products of the environment with one's own characteristics.

Education—a Help to this Life-Building Process—Education is nothing but the means of helping forward this natural life-process. It is an aid to the manifestation and display of vital energy and accelerates the spontaneous development of individuality through the assimilation of the forces and materials in the universe. It is a process by

which the individual and the environment are brought into relation with one another in the interests of the individual's life and progress.

Educational Institutions Must Therefore Help Forward the Same Process.—If then it is necessary that some ways and means must be devised by man for the proper development of his mental and physical faculties, the ways and means must have to follow this spontaneous process of life. building and the lines of natural development. If it is at all necessary and desirable to establish an institution for educational purposes the suitability of such an institution must be taken into consideration by having reference to the social, political and religious conditions of the people for whom it is intended. For the life and development of the people have been already adjusted to these surrounding circumstances. If these factors in the existing and past conditions of its national growth are neglected by the responsible guardians of society the healthy progress of development along normal and natural lines will be retarded, and in the place of easily growing specimens of humanity the world will witness the rise of an abnormal and degenerate society of human beings. And such results are the very things to be avoided and prevented by educational arrangements for they ran counter to the very ends and objects of education, *viz.* the development of the individual along the lines of his own natural evolution.

Corollaries to the Doctrine of Natural Development.—But since vital processes and conditions of natural development are not uniform but vary with peoples in different ages and countries, it follows that educational institutions must be very varied in character and ideals. Regard must therefore be paid to time, place and circumtances for the building up of educational institutions. The system of education must vary with the varying conditions in the environment. Every place must have its own pedagogics, every age must have its own. The good old rules may prove effete in an altered condition of society. The medicine of a people under one set of circumstances may be poison under another, 'The old order changeth, yielding place to new' 'Lest one good custom should corrupt the world.' If the system of education does not keep pace with the changes in social conditions the system becomes antiquated, loses its up-to-dateness and adaptability and hence becomes quite unfit as a means to the proper development of the people. The arrangements become vitiated, pervert the faculties and arrest their growth by preventing them from taking advantage of the forces of the surrounding world for their own nurture and development. The senses of man are thus stunted and dwarfed even as flowers artificially blossomed in a hothouse or exotics in an alien soil.

If we must profit by our environment and utilise its gifts for our own growth we must have the opportunity to turn them to our account free and unobstructed; and sufficient latitude must be afforded for the free play of our faculties. If one does not get scope for independent action, assimilation and development are greatly hindered and may become well nigh impossible. The reason is, a man is responsible for his own culture; the individual peculiarities of a man are best known to himself, others can have only a conjecture of them. And so indeed, if anybody is ever entrusted with the authority of guiding another man, the censor or the curator can only perform his duties conscientiously by keeping in view the peculiar characteristics of the person concerned, He will have to plan his work by accepting and recognising the independence and individuality of the latter and in such a way as to promote that freedom and separateness.

Such Institutions as Help Forward the Process of Natural Development are called 'National'.—Whenever, therefore, a system of education has to be promulgated, the organisers must hit upon that which is adapted to the character and requirements of the people for whom it is intended and is modern and up-to-date according to the latest development of the time. The genius of the nation, its historic individuality, the type of culture it has evolved, its ideals in actual life and traditions on the one hand, and on the other the spirit of the age, *i.e.*, the highest and the best truths discovered and realised by the other members of the

human society at the time, the accumulated experience and culture of humanity on the lines of its possible development in the immediate and remote future, must be taken into consideration by the educational organisers of every age and clime. Such a system of education as is based on a due calculation of these forces may be called natural or national system. This national system will thus be peculiarly adapted to a particular country in a particular age, and while it does fulfil the present necessity, it also prepares the way for the future development of society and thus contributes to the richness of world's civilisation and progress.

In the first place, anybody who attempts to stick to the good old rules, when they are unsuitable, forcibly attempts only an impossible task, and therefore these are to be forsaken in the interests of natural growth at the proper time. But in the second place the condition of natural development as conduced to by national education requires that the hoary past must by no means be forgotten, for then we should be trying to build a house on sands. The aims and objects, therefore, of the organisers of the natural and therefore national education must be, first to attach a special importance to the study of the nation's ideals and achievements in arts, literature and sciences, so as to imbue the learner with the best and noblest ideas of his community, past and present, and make him realise his oneness with the great whole of collective national life, and in the second place, to build on substructure of national sentiments and as an aid to their further development, the culture of universal humanity, so as to incorporate with the varied traditions of the nation the best assimilable ideals of civilised mankind.

Adaptability, individuality and modernity are the three principal features of the natural system of education. Having described this system in its general and theoretical aspects in the second branch of pedagogics, *viz*, that based on the philosophical method of inquiry, we shall refer to the system that is conducive to the best interests of the people of this country and possesses all the characteristics of national education as discussed above.

A scheme of education will be suggested that is calculated to help forward the natural and grained characteristics of the people along the paths of progress as well as to meet the pressing needs of the community at the present time. And in connexion with the picture of a modern national system adapted to the requirements of India all such topics as the arrangements for moral and religious training, the period and hours of work, the establishment of institutions, the curriculum of studies, the relation between the teacher and the pupil and other pedagogic questions regarding a university will of course be discussed.

(iii) Practical—Art of Teaching.

Sciences have two aspects, positive or theoretical and practical or applied. As a positive study science confines itself to the investigation of the facts and phenomena as they are and have been, how they happen, their interconnexions and interdependences. The theoretical investigator pursues his analysis and synthesis of the topics without any end in view—solely for themselves—to get at the truths about them. He has no concern with the ethical or utilitarian considerations affecting his studies.

But the other aspect of science concerns itself with the ends to be derived and the objects that may possibly be realised by pursuing the research. As an applied or practical study, science has certain definite aims to further and devise ways and means for their fulfilment. The investigator is not merely satisfied with the knowledge of the processes and the abstract truths regarding the phenomena, his chief concern is the uses to which the truths may applied and the work that may be done with them.

One part of science merely discovers principles and laws and establishes truths, the other applies those rules to practical purposes and actually ministers to social well-being. The two together form a complete science. Disinterested and dispassionate investigation of truths by the philosophical and historical methods without any distict end in view, as well as the invention of means and methods to fulfil certain ends, are the two functions of scientists. The latter of these functions

stands upon the former, inasmuch as it is the positive knowledge of the truth about a matter that furnishes a basis for the practical man and inadequate information is of very little help in guiding the actual course of an action. And so the applied sciences are based on the positive.

Economics has thus two branches. As a positive science it furnishes us with the laws and general principles of the production, distribution consumption and exchange of wealth without in any way suggesting changes in the socio-economic institutions or remarking on the justice or legitimacy of certain classes of economic phenomena. As an applied science or art, however, economics has an ideal or goal to attain justice, equality, increase of well-being, augmentation of national wealth, etc., and as such, has to discuss the methods by which those ends may be promoted. The practical economist has to pronounce judgement and dictate rules.

In like manner political science as a theoretical study investigates such political facts and phenomena as the origin, development, downfall and extinction of states, international deplomacy, constitutional growths, relations between rulers and ruled etc., and formulates general principles that have regulated the activities and thoughts of men as members of society in all ages and countries and are likely to influence them so long as man is man. But political science has an applied or practical branch, also, called the art of politics, which dictates rules that must be carried out by actual administrators, ministers and financiers in the interest of the good and the sound government of a state. The principles of political science have to be applied by the politicians and officers of the state in the administration of government.

The science of education, like every other science, has the same two-fold aspect. In the first place, by the historical and philosophical studies, the nature, scope, material, and means of education are first discovered. This is the positive or theoretical aspect of pedagogics. It investigates the principles underlying all educational systems of the world, the causes of their variety, their connexion with literature and other aspects of national life; studies the nature of the human mind, the laws of its growth and development, the instruments that help the process of unfolding, the various stages of human life, the likes and dislikes in each and the necessary food for each.

In the second place, pedagogics is also a practical science. As such it devises measures for the utilisation of the principles regarding the growth of civilisation and the development of man's body and mind in the practical interests of the individual's strength and efficiency, discovers methods and formulates rules by which the individual can be equipped in the struggle for existence. It advises him to seek certain forces, reject certain others in the environment, use them in certain methods and thus helps forward his attempts at self culture and progress. Educationists cannot rest content by simply pointing out the connection between the current civilisation and the system of education; nor are they satisfied by simply describing the process of education, the causes of its progress and decay. Nor again is the work of the educationists finished by simply narrating how education is influenced by the spirit of the age and environment and suggesting changes in the system of education. They have, over and above, to suggest a method of teaching and learning the subjects of study in the most profitable and practical way.

Educationists have thus a three-fold function, and thus the science of education has to be divided into three distinct branches :—(i) System of education. (ii) Theory of education. (iii) Art of education.

The first of these divisions treats of the varieties in the educational organisations of the world. The second will explain the origin of this variety by a philosophical discussion of the theory and nature of education, and establish the truth that educational institutions and policies must necessarily be diverse because of the diversity of the peoples in needs, temperaments and characteristics. In this book will be advanced the plea for separate educational organisations adapted to the requirements of Indian life. The third division of pedagogics will address itself to the devising of ways and means

for the carrying out of the theory propounded by the philosophical discussion in the second branch.

In the first place the scheme of an educational organisation with all its paraphernalia, machinery and apparatus will be discussed. In the second place, the scheme of an organisation suited to Indian requirements will be devised, and the arrangements for physical, mental and religious training, the control and discipline of students, the regulation of university life and other necessary things will be described. And in the third place a special method of teaching will be suggested which is likely to combine economy of time and labour with efficiency and interestingness. But of these three, the first two classes of problems I propose to dispose of towards the close of the second division. So the whole of the third division will confine itself to the elaboration of the art of teaching the various subjects.

B. K. SARKAR.

Influence of Environment—II.

(*Continued from Vol. I. Page 372*)

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I have already adverted to one extreme case of the influence of environment on plant structures, I mean on water plants in particular and I shall now hold before the reader a picture painted in diametrically antagonistic colours. For a still more remarkable case of adaptation called forth by environment is afforded by plants that have acquired a habitat in deserts. Conspicuous in them are the almost annihilation of the leaf surfaces and the structural modification of the different parts of the plants into hard indurated points. And though there are in evidence some pleasant and inviting palms with abundance of green foliage that appear rather voluptuous, in that situation, sequestering themselves to oasis tracts, still the great majority of desert plants are signalised by a few very singular characters; and of these none are more striking than what we find in structures homologous to the leaf. The acrid and parched up plains of deserts which contain what could with propriety be called a mere apology of vegetation stand in bold contrast to the green luxuriance of the rich and watered alluvial debris of the lowlands. While Nature is dallying gaily with all her sandy plumage of soft garments on and dancing on her light fantastic toe to the accompaniment of sweet murmurs on the rich carpeted floor of the pillared hall of forests, she is raving and fretting and rasping and sampson-like disgorging all the bitter invective of her lacerated heart in the deserts. But still the whole host of brute forces constantly in turmoil there, trying to stamp out all vestige of life with their negation of vitality writ large and fiercely disputing every atom of the possibility of existence, are in the long run rendered futile against the mysterious operations of forces bound up with life. For you can not choke out life eternally by mere crude elemental forces. If physical conditions be far too injurious to the normal development of a plant, it would sooner work out all possible permutations to keep environment and existence in harmony rather than succumb to them. Life with all its tenacity, with all its vigour rooted on earth, is far too stiff a cord to be snapped asunder by every whimsical turn of the great giants—The Physical forces.

And so it is with desert plants. Well, these plants, unable ever to satisfy the ravenous thirst of the scorching rays of the sun as also that of the wailing blasts of wind under the tantalising wardship of which they have been decreed to live, have had to turn round at last and lay a square deal at the door of their masters. They have adapted themselves to their environment. They have adopted contrivances that will in some way be beneficial to them in maintaining the hard stuggle. They have done away with big expansive transpiring surfaces and compressed their leaves into spinous or needle like structures. Even some leaves that burst out in their native fashion and elude this crisping force, have got themselves burdened with a thick cuticle—an imperious layer of cell wall with cutinous substance impregnated in it and that in its turn saddled with a thick hairy coating. We can well understand, though we are not endowed with vegetable intelligence, the grand significance of all these devices and deviations from the general form. For as there is a heavy tax on water imposed by the joint tyranny of sun and wind on the plant and

very little of it to be had from the crushed bosom the earth, the plants have had no choice left to them but to reduce their transpiring surface the leaves. By this reduction they have been enabled to prevent the sudden and too much loss of water which is the milk of life to them. The formation of the thick cuticle gives an additional protection and the development of the epidermal hairs adds still another member to the hierarchy of the tegumentary system.

But to turn to facts. In the Cape a genus of plants known as mesembryanthemums has now become most common. These are emigrants from the desert and though have now become naturalised in the Cape and live innocently as succulent herbaceous citizens they still carry with them like their fellow emigrants, the coloured Indians, the ban which being the unhappy children of the desert they have necessarily to carry in the shape of contrivances for checking too much perspiration—odious trait in a niggard life which rosy brothers may fitly scoff at. The contrivance in the case in point is in some cells of the Epidermis being converted into water reservoirs. These latter had stood them in good stead before they left their nursery—the desert; for however much the privations there, they had the water-cells to fall back upon with liberty to draw from their source the whole supply of water during times of need however prolonged. The Nagphanee of Bengal (Cactus Indica) found so very abundantly in sandy places which at some former time formed the bed of the shifting rivers of our province, is marked out from the rest of the indegenous vegetation by a number of characters as remarkable for their oddity as they are repulsive in appearance. The plant is a promiscuously patched up mass of oblongly flattened proliferously jointed stems with all the branches charmed down by environmental incantations, into bunches of thorns that point ominously half hidden from the axils of ill looking dwarfs of leaves. There is no end of there weapons on the whole surface of the plant and its members and woe be to that unwary straggler who dares brush past this saturnine plant with its cursed stings envenomed with poisons. Almost similar is the structure of the Euphorbias better known in our vernacular as mansha, and shij. Here, too, as in the cactii, the stem is stout and still fleshy with all those wart like projections of spines and thorns. The way in which these plants give service to man affords us some clue as to the causes that have led to these abnormalities. In the suburbs of Calcutta and generally in Bengal where the soil will suffer them to grow these Cacti and Euphorbias are almost universally used for fencing purposes. Precisely those characters that have appealed to man as being of economic value to him have also been cultivated and assumed by the plants for their self preservation. For looking into the habitat of their near relatives, the opuntias, we find that they live almost exclusively in deserts. In the desert tract at the eastern foot of the Rockys the epigeneous living vegetation is composed exclusively of such opuntias, especially in the summer. There perched up high on those desert plateaus these unfortunate plants while fighting stoutly against the two great tyrants of time and space hold up, as it were, a warning finger to those living in more endurable surroundings and demonstrate in no ambiguous manner the deplorable fact that ordinary vegetation in that part of the earth surface is doomed to be smothered out. The melon cactus of America have globose spherical stems unlike the other cactuses where the stem in generally flat or triangular; but like these latter they have cut down the leaf surfaces to an irreducible minimum and developed the spines and thorns to amazing profusion. In the Mexican desert flora leaves, as we ordinarily understand by the term, are not only conspicuous by their absence from the whole sandy panorama but when they are not quite suppressed, become metamorphosed into forms which nothing less than a strict scientific stretch of reasoning could recognise in them a homology with leaves. Flattened spinose opuntias (like our nagphanee), huge melon cactuses with their remarkable elephantine structures with grooves and channels excavating their surfaces and ridges armed with projecting spines monster agaves with rarely a single stem shot up in the air and fleshy cartilaginous boat shaped leaves superposed in great numbers, and a few Yuccas from almost the whole vegetation of the Mexican deserts.

As already pointed out all these plants abound in hot sandy regions. In well watered soils they are seldom in evidence. In the rich alluvial debris of lower Bengal we look in vain for the opuntias cactuses and euphorbias and agaves, though we can see them growing well enough in the Royal Botanical

gardens, Calcutta. But we have to remember that morphological structures are modified by environment when the latter has had sufficient time to make its influence felt. Our ponds and marshy bogs would look with horror on these plants and if ever there comes a chance for such prodigies of Nature to seek shelter in the arms of water, they will be forthwith denounced with desperate vengeance. Thus between water and sand, between dampness and desiccation the cry for life is stifled. For physical causes themselves always changing chamelion-like render it impossible for the plant to transmit its inherited characters *in toto*. Plants, in fact, all living organisms, look with alarm on any sudden permanent change in their physical surroundings and set about revising their internal structure endeavouring at the same time to run in conformity therewith. The universe is something like a huge automaton where the different parts, its screws, its wheels, its shafts and springs are all in a correlated concord of equilibrium so that a change brought about in any one part will call forth a responsive change in the other correlated parts. The obsession, for instance in the cactaceous plants of sandy tracts, is quite in keeping with the nature of the soil, its dryness, its porosity and the nature of atmosphere—its humidity, its temperature and its rate of movement. The plethoric display of foliage in a rich soil is in harmony with the nature of its physical characters We can well say with the poet,

> The budding twigs spread out their fan,
> To catch the breezy air.

The significance of all these structural modifications will next engage our attention. Physical conditions existing in deserts are too well-known to require recapitulation. In dry climates and soils which are not of such extreme temperature as prevails in deserts, leaves are succulent or needleshaped or hard. These are, as will be easily seen, contrivances for lessening the transpiring surface. But where the struggle for water is still hard and the temperature of the atmosphere too high, protective contrivances of still greater efficiency are brought under requisition. In the opuntias and cactuse three factors have secured this efficiency. Of these the most important is the total suppression of the leaves, the formation of spines in their stead, and the conversion of stems into flattened expanded leaflike structures or at least structures where the greatest amount of green surface can be obtained under the circumstances. With the development of the spines the plant has secured a two fold advantage—for not only has the transpiring surface been minimised and the small amount of water at the disposal the plant taken and locked up into its body, without there being any serious risk of this water being lost, but at the same time attacks from thirsty animals have been warded off and the sheer force of marauding hurricanes minimised. Besides these there is a still further contrivance for lessening transpiration and affording protection. The whole exposed surface of the plant is wrapped up in a thick cloak of well developed cuticle. Nor is this protective mail thrown over the plant an isolated piece of tissue to which the whole protective function has been delegated. For charged with its share of responsibility it emphasises the need for unity in the different systems or tissues forming part of the organic mechanism and calls upon those immediately subjacent to it to give it additional strength by forming a strong back bone. The arrangement of the cells in the interior of the plant and that of those of the stomatal openings operate with the same end in view. For the subepidermal tissue presents a bulwark of stiff straight pellisade cells two or three rows deep. The guard cells that bound the stomatal openings are sunk deep into the pallisade tissue instead of remaining on the surface as they do in ordinary land plants. In this way they are enabled to screen themselves from the fierce dart like rays of the sun. Add to all this the abundant formation of mucilage in the interior. This latter substance makes the contents of the cells more viscous and defies if only for a short time, the desiccating action of the dry parmattan blasts and scorching sun of the desert. Again intercellular spaces which in the case of water plants are developed to the extent of right canals wide enough to be seen with the naked eye and always plentifully provided in all land plants are almost elaborately abandoned in the case of desert plants.

The lamentable lack of this thick cuticle and its paraphernalias in water plants is singularly consistent and functionally connected with their abundant inter-cellular spaces. But nobody seeks protection where none is wanted. Characters that, as we have

seen already, are indissolubly linked up with water plants are quite the obverse of those associated with a desert plant. In one the whole vital requirement is protective ; in the other it is adaptive. The liberal supply of mucilage, for instance, in the one has as much bearing on the thickness and protective expediencies of the cuticle in it as the air channels have on the thin epidermis of the other. If for all its latent partialities for the water conducting elements, the water plant fails miserably to incorperate them full fledged in its system there is neither lack of excuse nor wealth of material to shew why they should not remain undeveloped. Every body has to pay the forfeit for his own choice and the forfeiture in the case in point is not with regard to the vascular water conducting system but other tissues or systems. Plants like those of our ponds and marshes with better poetic associations may have their cells shaped in all conceivable sorts of fantastic fashion,—witness for instance, the star like and diamond like cells in their cortex ; but fashion is not the talk of the day with the desert plants. Hard and rough as its life is it does not indulge in the rather insane joy of form and fiction—no diversity breaks the monotony of its sober existence ; the cells, the component parts, have been nursed with spartan simplicity to develop into rigid stiff structures with no undulating lines to insinuate their mirth into, but with right rectilinear ones standing forward like armies prepared for assault. It is too stout, too deformed, too obsessed to participate in all the fashionable enjoyments of its more fortunate friends on earth ; but it too enjoys heaven and earth, in the limited range of its dominion, though in its own native way—with a grim sardonic satisfaction.

How great the structural contrast is between water and desert plants can be shewn very clearly if we take the help of a table subjoined below.

	WATER PLANTS	DESERT PLANTS
The Plant	Delicate, trailing or floating with a very short stunted stem.	Rough, thick, stout, succulent shrubs or trees.
The leaf	Large floating or thin dissected, sheathing base, long petioles thin and delicate.	Fleshy thick or spinous or thorny or altogether abortive.
Cuticle	Wanting—epidermal cells permeable to water.	Very thick cartilaginous, with a covering of hairs-impervious.
Structure	Porous with many intercellular canals—Cells soft of various kinds some starlike.	Rectangular cells, compact structure, no air cavities, enough mucilage.
Water conducting elements and mechanical tissues (F. V. System) etc.	Not well developed Hypoderma, sclerenchyma almost wanting from petioles.	Very strongly developed, very hard, thickened and impregnated cells. Hypoderma and similar hard tissues abundant.
Roots.	Almost wanting only a few fibrous.	Very strong, long tap root with a complex root system.

(*To be continued.*)

H. N. MITRA.

ARTICLES and CONTRIBUTIONS
SPECIALLY USEFUL TO STUDENTS.

TUDOR LITERATURE.

1500—1579.

(*Continued from Vol. I. Page 404.*)

POETRY.

" Starting with Henryson[1] and his Scotch successors, Dunbar[2], Douglas[3] and Lyndesay[4], we come south to Hawes[5], Skelton[6], and Barclay[7] and pass away from the " old order " with Wyatt[8] and Surrey[9]."*

1. 1425 ?—1500
2. 1460—1520
3. 1471—1522
4. 1490—1558
5. 1483 ?—1520 ?
6. 1460—1529
7. 1476—1552
8. 1503—1542
9. 1518—1547.

* A. J. Wyatt and W. H. Low.

In a former essay, I have told that King James I had infused Chaucerian spirit into scottish literature. His successor therein were no unworthy figures. Dunbar and Douglas: "These Scot poets kept the flame alive in the dark days between Chaucer and Spenser until the advent of 'the two chief lanterns of light to all others that have since employed their pennes upon English Poesie,' Wyatt and Surrey."†

John Skelton (1460-1529) was an English poet of this time. His serious writings, which are mostly eulogestic verses, addressed to patrons, and allegories, are not of much worth. They are stiff and pedantic and do not evince any indication of literary style. But his comic and satirical writings, and especially his diatribes against so high a personage as Cardinal Wolsey, are distinctly original; they strike out a new path in the history of English satire—a path as yet untrodden by any of his not less billiant predecessors. He also wrote strongly against many of the prevalent church rituals. His more important works are *the Tunning of Elynour Rummyng, the book of the sparrow, why come ye not to court,* and *Colin Clout.* The last two are anti-Wolsey literature.

Stephen Hawes (1483?—1520?), his contemtemporary is known by his chief work, of a rather susquipedallion and explanatory title.—*The History of Grand Amoure and La Bel Pucell, called the Pastime of pleasure, containing the knowledge of the seven sciences and the course of Man's life in this World.* Little credit is due to him, in point of originality.

Thomas Sackville (1536—1608), afterwards Lord Buckhurst, wrote the *Induction* of the famous *Mirror of Magistrates.* It will not be out of place here to dwell upon this most momentous work of the last days of Chaucerian influence. The object of this work was to furnish a number of tales in verse, relating to the tragic situations of some of the great personages of English history Other contributors, besides Sackville, William Baldwin, George Ferrers, John Higgins, Richard Niccols, Thomas Churchyard, and a few others.

At this point we are landed on a very interesting stage of this period—that of Wyatt and Surrey. Sir Thomas Wyatt (1503—1542) may justly be called the founder of the English sonnet on the models of Petrarch. He reproduced, to the nearest possible point, the attractiveness of the Petrarchan sonnets in English. His friend and follower Henry Howard, Earl of Surrey completed the work, which Wyatt had begun. The latter moreover translated second and fourth books of *Œneid* in blank verse. Both these poets are simple and go straight to the point. They avoid allegory. They effected quite a change in the history of the poetry, because they gave indication of a new era. "They stand at the point where allegory and chivalrous romance ceases to have any meaning, and the elaborate involution of Pagan and semi Christian mythology disappears before a more correct style—the style of the court and the ladies' bower. The form of poetry, too, is changed: the epic is set aside for the sonnet. Its spirit is equally altered: love songs take the place of moral disquisitions."

In 1579, Spenser published his *Shepherd's Calender.*

PROSE

The prose literature of the period may better be coped with by resolving them into several denominational heads with reference to their subjects;—Religion, History, Philosophy.

William Tyndale (1484—1536) and Miles Coverdale (1488—1568) published *the book of Common Prayers* in English in 1549; John Knox (1505—1572) wrote his *History of the Reformation in Scotland;* and John Fox (1516—1587), his *Acts and Monuments.*

In the domain of histrical literature, we find Robert Fabyan (died 1512), and Edward Hall (1500—1547), contributing their best to the enrichment of this class of literature. The former gave us his *Concordance of Histories,* between Brutus, the Trojan and the Tudors, while Hall in his *Union of the two Noble and Illustrious Fami*

† A. J. Wyatt.

lies of York and Lancaster, gives us a history of the Wars of the Roses and of Henry VII and Henry VIII. These histories, however, lack systematic treatment and no trace is visible of any attempt at discriminating between insignificant and really important particulars. All facts that the historian has been able to lay his hands upon are put together without any method or philosophy.

Among the philosophical writers of this period, Sir Thomas More (1480—1535), certainly occupies the highest place, on account of his *Utopia*—a philosophy in Romance, a work which not only gives us in a concrete form, the sketch of an ideal republic, but also has enriched the English Vocabulary by at least one word. Sir Thomas More was also the author of *life of Richard III*, evincing a set hand at polished style. Roger Ascham's (1515—1568) *School Master* and *Toxophilus* show a considerable amount of logic, as also originality in the author; Thomas Wilson (1526?—1581) wrote his *Logic and Rhetoric*. John Lily's (1553—1606) *Euphens* is remarkable for a style of writing which is known by a name derived from the very same work. His style is stiff and pedantic. Without coming straight to the point, Lily would go all the way to a distant metaphor or to some other giddy figure of speech and then come back in a round-about fashion to his same distination.

The translators were not idle. Many translations from foreign languages were added to the literature, chief of which was *Plutarch's Lives* by Thomas North (1538?-1601). Of others, William Painter, (1540?-1594) the author of *Palace of Pleasure*, which is a collection of Italian stories from Boccaccio and Bandello; and George Whetstone, who wrote *Promos and Cassandra*, may be mentioned. Another species of writing viz., *chronicles*, was also ushered in chiefly by the instrumentality of Raphael Holinshed who died in 1580. It may be remarked, by the bye, that Shakespeare drew a great portion of his materials from Plutarch, and from Holnished.

Drama.

In a previous paper, I have spoken of the origin of drama in England; and it would bear recounting here what I have said before. The first form of drama, extant in English literature, was the *Mysteries* or *Miracle* plays, which were chiefly devoted to ecclesiastical subjects and confined in the circles of the clergy From the clergy it was first transferred to the laity by the appearance of the *morality* plays. The drama no longer remained the property of the church only; the *moralities* gradually developed distinct features to commend themselves to cultured minds; *Interludes* came into existence, through the agency of noblemen, who had servants and retainers—who were accomplished actors—solely dependant on their respective masters. These acted before their lords, according to the sweet will of the latter. During the last days of Elizabeth, were found numerous companies of actors, prospering under the patronage of noblemen, and bearing their names, e.g., Lord Leicester's Servants etc.

The state of drama during this time has been analysed by Messrs Wyatt and Low, in the following manner:—

"We might roughly classify the early Elizabethan drama under three headings—viz., (*a*) the popular drama, (*b*) the Latin, and (*c*) the Italian. In many (if not in all) of the works of the later Elizabethans we shall find all these elements blended, as we shall to a less extent in some of the earlier ones; here, however, we may consider them separately.

"(*a*) The popular drama continues the varieties already enumerated—viz, the Mystery and the Miracle, acted down to the very close of our period, the Morality and the Interlude; and develops from the two latter the rough farce and the chronicle play, partaking of the nature of them both. The later Elizabethan drama owes much to it notably not a little of the form of the history-play and of the clownage and humorous foolery of the comedy.

"(*b*) The Latin drama, during the early period we deal with here, may conveniently be studied in connection with Udall and with Sackville In tragedy the model is Seneca; in comedy, Plantus and Terence. Plautus and Terence had been used before to supply suggestions for the farcical or pseudo humorous elements of the older plays; in Udall's play, however, we find a comedy, throughly English in plot, incident, tone, and dialogue, but based on classic comic models as regards its construction.

"(*c*) The Italian drama, as far as it concerns us here finds its representative as regards tragedy in such a work as Gascoigne's 'Jocasta' or Whetstone's 'Promos and Cassandra,' and as regards comedy, in Gascoigne's 'Supposes.' We need not here dwell long on this section: but let us point out that it is perhaps the most important sector of the great Elizabethan stage, and that it itself was derived from the Latin drama"

To turn to particulars. John Heywood (1506-1565?) Wrote several Interludes, chief of which is *Four P's*; Nicholas Udall (1505 1556) is the author of the first regular English tragedy—*Ralph Roister Doister* (1541); and Sackville and Thomas Norton (1532 1584) wrote *Gorboduc* in 1562, which may be called the first tragedy.

AJAX

CORRESPONDENCE

ALLAHABAD UNIVERSITY.

Sir,

Allow me to draw the attention of the University to a few inconsistencies that are to be met with in the Prospectus of the University of Allahabad. There are many courses of study open to the students in the Intermediate. On the science side a student may take either (1) Physics, Chemistry and Biology, or (2) Physics, Chemistry and Mathematics, or (3) Physics, Chemistry and a classical language. Only those who have passed with group (1) and (2) are allowed to take the B. Sc. There is no provision made for those who have passed with science and a classical language. There is no reason why students of group (3) should not be allowed to take up the B. Sc. with Biology. Mathematics is not at all a necessary auxiliary of the B. Sc. with Biology, in as much as the mathematical portion of Physics is omitted from the course of those who go up with Biology. It follows that Mathematics is on an equal footing with a classical language; secondly, Biology is equally a foreign subject to both the students of Mathematics and a classical language. Will the authorities kindly look into the matter and make the courses even?

On the Arts side also there appears a flaw, which I may be allowed to point out. In the F. A. Mechanics is taught along with Physics, but in the B. A. it is taught along with Mathematics. Suppose a student takes A course with Mathematics in the F. A., he is not instructed in Mechanics. In the B. A. he has to take up Mathematics, along with which he is required to read higher Mechanics. It is pretty clear that the higher course in Mechanics can not be profitably pursued without first going through the elementary course. I hope the University will regulate the courses in such a way as to avoid the unnecessary difficulties and make the courses smooth for students.

CHHAIL BIHARI LAL.

REVIEWS AND MINOR NOTICES

Humanity and Hindu Literature

A REVIEW.

A paper on the propagation of Hindu Literature was read by Professor Benoy Kumar Sarkar M.A. of the National College, Calcutta at the last Literary Conference of North Bengal held at Gauhati in the first week of April. The Professor dealt with the subject from linguistic and literary as well as religious standpoints.

He believes that the Romantic movement in European art and literature and Transcendental movement in Western Philosophy generally can be traced to Hindu mystical and metaphysical speculations that found their way into the social life of Europe through travellers' tales and tourists' caricatures. He has suggested various lines of work that should be undertaken by friends of the provincial vernaculars in incorporating and adapting the literary legacies of the ancient and mediœval Hindu thinkers. Books should be written in the vernaculars giving the history of Indian literature from the earliest times. Then again a series of books should be compiled in the provincial languages summarising the best works of the greatest Hindu men of letters. So that corresponding to the series of ancient classics for English Readers edited by Collins we may have *Hindu Classics for Readers in Bengali, Hindi, Marathi &c.* We are glad to be able to say that some work along the lines indicated has been done by the *Panini Office* of Allahabad controlled by the Society for the Propagation of Hindu Literature.

Professor Sarkar has discussed the question from Educational stand-point also. He has very forcibly expressed his arguments for imbuing students of elementary classes with ideals and aspirations from the literary treasures of the Hindu world. And the University courses also should emphasise the study of Indian History and Philosophy from original materials and compel students to go through Sanskrit Literature, Pali Texts, inscriptions and other sources learn to ...

them as *data* and construct history and philosophy out of them in an independent way. Education of Hindus cannot be real, effective and calculated to produce good results until and unless the national traditions, national ideals and national performances in art and achievements in literature begin to take important place into the higher and lower stages.

Nor is Hindu Literature to be propagated in the interest of Indian Education alone For as Professor Sarkar concludes, the world of universities at large, educated humanity, in short,—lovers of science and priests of the temples of learning can not neglect it. It is certainly very astonishing to find that the graduates of the highest order in European and American Universities should go out into the world with a very perfunctory knowledge of Hindu literature, Philosophy and Sociology. It is absolutely necessary in the interests of comparative literature and science that types of culture and ideals, whether high or low, spiritual or non-spiritual, highly developed or very rudimentary, should be studied in a most dispassionate and unprejudiced fashion.

Professor Sarkar therefore concludes with an appeal that the universities of the modern world that are advancing the bounds of human knowledge and are adding to the stock of world's science should make it a point to have Hindu Literature and Philosophy as compulsory subjects for all advanced courses in historical, sociological and philosophical subjects. Time has arrived, he believes, when educated Hindus should be forth coming to take up the work of propagating Hindu Literature in foreign countries in a scientific and non-religious or non-racial spirit and try to influence the distinguished Universities by extension Lectures, Pamphlets, dissertations and books specially written for the purpose. The objects of these missionaries should be wholly non-sectarian and non-political and they should work in such a way as to promote an interest in the study of Hindu literature and life and prepare the way for comparative philosophy and sociology.

M. M. BASU, M A , B.L.
Late Professor, Ripon College and Government Research Scholar in Hindu Philosophy.

English Literature of the XIXth Century. By A. J. Wyatt and Henry Clay. (University Tutorial Press, London).

The authors have given the Story of English Literature during the nineteenth century in a concise and readable form. The varied and abundant literary output of the period has been exceedingly well managed and we have no hesitation to say that the book would prove to be the best History of English Literature for junior Students.

Milton's Paradise Lost Bks. III and IV. By A. J. F. Collins and S. E. Goggin. (University Tutorial series)

A good annotated Edition of the Paradise Lost III and IV. The Notes are complete and up to date.

Tennyson's Enoch Arden. By Frederick Allen. An edition exactly like the above.

Junior Heat. By John Satterly D. Sc , M. A. (University Tutorial Press Ld) 2s.

This volume is intended for the Cambridge Junior Local Examination, but it can be also used by our Intermediate students. The chief usefulness of the book is the Calculations and Exercises.

The Restoration and the Revolution 1660-1715. By Arthur Hassall M. A. (Rivingtons' Text Books of English History). 2-6 d.

A scholarly little work. Mr. Hassall deserve the highest praise for his clearness of arrangement supply of all suitable helps i.e. maps, index, geneoalogical and chronological tables and questions at the end of each chapter.

Advanced English Grammar through Composition. By John. D. Rose M. A. (London : George Bell) 2s 6d.

The author's object is to treat grammar, not as an end in itself, divorced from immediate utility but as arising out of every-day forms of speech, and as giving practical help in their mastery and in the completeness of their study.

Geometary for Schools Vols. I. III. By W. G. Borchardt M. A. B. Sc. and the Rev A. D. Perrott M. A. (London : George Bell) 2s 6d.

The book is treated according to the new Syllabus of Geometry (Plane). What strikes one is the excellent arrangement and the copious use of graphic methods. The book is very useful to Matric. Students.

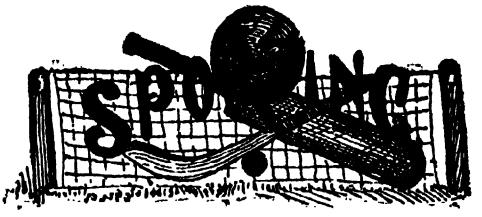
SCIENCE NOTES
AND OTHER INTERESTING MATTERS.

Amundsen in the Antarctic

Captain Amundsen's brilliant expedition had a triple success. He attained the South Pole on December 14, and found, as Shackleton's observations had led us to expect, that it is located in a vast plain, alike in all directions, mile after mile. In his outward journey he covered twenty-five kilometres per day, and averaged thirty-six kilometres per day on the return. For the first time a landing was made on King Edward VII Land, to the east of the Great Ice-Barrier, and the party under Lieutenant Prestud made geological collections which may confirm the view that this land is continuous with South Victoria Land. The third achievement of first-rate order was the discovery of the end of Ross's Great Ice Barrier. The altitude of the Polar plain above sea level is about 10,000 feet, and the temperature on December 14 was fifty Fahrenheit degrees below freezing point.

Lighting by Neon Tubes

As has long been known, a vacuum tube charged with neon gives a brilliant light with but little absorption of electric energy, yet, as with other vacuum-tubes, there is a progressive absorption of the gas, and the light finally becomes extinguished. In a note presented before the Paris Academie des Sciences, M. G. Claude describes a number of experiments made to overcome this drawback. He found that with the tubes first used, having small electrodes, the latter heated rapidly, nearly to redness, and a metallic deposit formed on the glass in their neighbourhood. After eight hours' working the amount of this deposit was as much as 1·6 grammes. On examining the deposit he found the neon appeared to be occluded in the metal. Since the disappearance of the gas was thus a consequence of the vaporisation of the electrode, M. Claude reasoned that the life of the tube would be increased by using larger electrodes, which would keep cooler. With this object he constructed a neon tube 45mm. in diameter, having copper electrodes equivalent to a surface of 300 sq cm per ampere of current. One of these tubes worked satisfactorily at the Salon de l' Automobile for 210 hours, when it was accidentally broken. Since then, with a tube 6 metres long and having electrodes presenting a surface of 500 sq cm per ampere, M. Claude found that the potential difference necessary to maintain the current only changed by 4 per cent, in 400 hours. The efficiency is stated to be excellent, being 0.8 watts per candle. In this connection it is, perhaps, of interest to note that, where energy wholly convertible into the light to which the eye is most sensitive, the output would be 55 candles per watt, according to recent measurements of MM. H. Buisson and Ch. Fabry.



THE UNIVERSITY BOAT RACE.

Oxford Wins.

Details of the Race.

The Boat Race was rowed again on April 1st. The start being made at 12-30 p.m. A strong north-westerly wind was blowing.

Oxford won the Boat Race by six lengths, in 22 minutes 5 seconds, leading throughout.

This is the 69th race. Oxford has won 38 times to the 30 of Cmbridge, the contest in 1877 having resulted in a dead heat. The last time Cambridge won was in 1908.

Oxford won last year in the record time of 18 min. 29 secs., the previous record being beaten by 18 secs.

The following are the names and weights of the crew:—

Oxford.

		St.	lb.
	F. A. H. Pitman (Eton and New College) (bow)	11	13
*2.	C. E. Tinne (Eton and University) ...	12	4
*3.	L. G. Wormald (Eton and Magdalen) ...	12	11
4.	E. D. Horsfall (Eton and Magdalen) ...	12	7
5.	A. H. M. Wedderburn (Eton and Balliol)	13	11
†6.	A. F. R. Wiggins (Eton and New College)	12	11½
*7.	C. W. B. Littlejohn (Victoria and New College)	12	9
	*R. C. Bourne (Eton and New College) (stroke)	11	2½
	*H. B. Wells (Winchester and Magdalen) (cox)	8	9

*An old Blue.
†Spare man last year.

Cambridge.

	*R. W. M. Arbuthnot (Eton and Third Trinity) bow)	10	10
2.	D. C. Collins (Wellington, New Zealand. and First Trinity)	11	10½
3.	H. M. Heyland (Wellington and Pembroke)	12	1½
4.	R. S. Shove (Uppingham and First Trinity)	12	2½
5.	J. H Goldsmith (Rossall and Jesus) ...	13	0
*6.	R. L. Blanc Smith (Eton and Third Trinity)	13	4½
7.	L. S. Lloyd (Eton and Third Trinity) ...	10	5½
*8.	S. E. Swann (Rugby and Trinity Hall) (stroke)	11	
	*C. A. Skinner (Durban High School and Jesus)	9	

* An old Blue.

CUTTINGS.

HARVARD AND THE INDIVIDUAL.

By L. B. R. Briggs.

[Reprinted from *Boston Transcript*, June 24, 1903.]

For such intercollegiate discussion as takes the form of "symposia" in Sunday papers, the relative merit of large and small colleges is a never-failing topic; and in this discussion some officer of the smaller colleges maintain that a collge is the better for being small. Without inquiring whether these gentlemen would reject opportunities of growth for their own colleges, whether the system of admission by certificate is not chiefly a bid for students, and whether the very pleas for the small college are not designed to make it larger, I pass at once to the strongest argument of the small college—the argument that in it everybody knows everybody else, and that consequently, while the whole community may move as one man, the individual is never ignored. In a large college, these gentlemen contend, concerted action is impossible; and the individual with no strng social claim is lost in the crowd. Near a whole city full, home he has none. If he is poor, he may starve; if he is morbid, he may go mad; if he is sick, he may die—and no one of his fellows knows till all is over. If he is eccentric, he may be "queered" as it is called, growing queerer and queerer until an eccentricity which might be modified into effective individuality has become a hopeless inability to get on with men. In a small college the student who would be a recluse is literally dragged out of his den to see football—or even to play it—and is humanized thereby. At a large college nobody need know or care whether anyone sees a game of football or not. There are enough without him. If he chooses to "flock by himself," he may do so till he is at cross purposes with his own youth and with every natural manifestation of youth in others. Yet the spirit that brings all the students of a college together for a common purpose, the undived enthusiasm of a whole college, is one of the precious experiences of education; for even when to middle-aged people the cause seems trivial, the spirit is patriotism, the same patriotism that in a national crisis

> "Shall nerve horoic boys
> To hazard all in freedom's fight."

That even a large college may be roused as one man is obvious to anybody who has heard (I use the word advisedly) a game of baseball at Princeton, or who has known athletics at Yale, or who knew Harvard in the foot ball season of 1901. Princeton, situated in a small town on an isolated hill, is a centre to itself. Yale lived long in and about a crowded campus, and is so far from a great city that even on Saturdays and Sundays the students naturally stay at the college. At Yale, moreover, as at Princeton, the elective system was for many years applied so sparingly that the students felt the sympathy which comes of common tasks; and even if now and then this union, like some others, was a union for the avoidance of labor, it could not but prove a strong bond. Harvard, on the contray, seems at first sight to have every requisite for disintegration; she lives close to a large city, full of social distractions; she has hundreds of students from Boston and the suburbs who may go and come every day; her recitation halls, her laboratories, and even her dormitories are often far apart. Moreover her elective system is so free that even at the outset it breaks up the classes; and not only Jones and Smith, but Jones and Johnson, whose alphabetical destiny would seem to unite them, may go through four years without knowing each other by sight or even being in the same lecture-room at the same time. In such a university, it is urged, all common feeling must be factitious—"pumped," like that organized cheering when nobody is cheerful, but everybody is trying to "support" his team and "rattle" the other one. In organized cheering, it is urged, and in that only, Johnson have a common emotional experience, but they have it anonymously.

A story told by Professor Palmer and afterward printed by Mr. E. S. Martin reveals the divided interests of Harvard. On the evening of a mass meeting in Massachusetts Hall for the discussion [illegible] relations between

Harvard and Yale, Professor Palmer went to Sever Hall, where Mr. David A. Wells was to lecture on banking; and as he went he was troubled by the thought that "those boys" would all be in Massachsetts Hall, and that Mr. Wells would have no audience. Arriving at the lecture hall, which seats over four hundred persons, he found standing-room only; and it was not Cambridge women that filled the seats it was Harvard students. After the lecture, remembering that there should be that evening a meeting of the Classical Club, he went to the top of Stoughton Hall to find there between twenty and thirty men, who, oblivious alike of banking and of Yale, had spent the evening in a discussion of Homeric philology. "Harvard indifference," says one critic; "Harvard University," says another. Much of the strength of Harvard lies in her variety of interests. Side by side with the boys whose passion is football are the men whose passion is mathematics or philosophy, who care nothing for intercollegiate politics and less than nothing for intercollegiate athletics; and such is the freedom of Harvard that these men are suffered to follow their own bent, and are not forced into a life with which they have no sympathy. To one who has lived in Harvard College it is the college of all colleges for the recognition of individual needs and individual rights; of the inevitable and delightful variety in talent and temperament, and even in enthusiasm. When all the people in one place are interested in one thing, it may be inspiration, and it may be provinciality. When everybody in a university shouts at every ball game, athletics prosper, but culture pines. Where Greek and the chapel are elective, baseball should not be prescribed; and where baseball is not prescribed, there are sure to be individuals who cannot always occupy either the diamond or the bleachers.

"We grant," it may be said, "that Harvard allows and encourages a man to, lead an independent intellectual life, to get all the Greek he wants, and all the chemistry he wants—and no more; but what of human fellowship, the real and great and permanent blessing of college life?" The answer of any one who knows the College is this. **If a man is interested in anything outside of himself, he will get human fellowship in Cambridge; If he is not, he will not get it anywhere.** The best friendships, as divers wise men have told us, are based on common interest in work. Editors of a college paper, debaters in a college team, students working side by side in a laboratory— or even in athletics, now that athletics have ceased to be play— these men, and not the fellow poker-players, are laying the foundation of permanent friendship. Harvard College contains hundreds of groups of men who come together for work which they do for the love of it; and in some one of these an earnest man is sure to find or make his friends. Is it better to know everybody in a class of fifty or fifty in a class of five hunderd? Which offers the more reasonble and promising basis for the friendship of a life? Is there not, after all some danger when even affinities are, as it were, prescribed and provincial—some danger in that extempore intimacy, that almost instantaneous swearing of eternal friendship, which a small community may demand?

(*To be continued*)

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CROWN QUARTO pp. 408

THE COLLEGIAN VOLUME ONE

(*From October 1911 to March 1912*)

WITH AN INDEX.

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Physics—Anath Nath Palit, M. A. (Honorary Lecturer in Physics, Indian Science Association), B C. Ghosh, M. A,, M. B., B. C, (Mathematical and Natural Science Tripos, Cambridge and University Lecturer), P. C, Bose M. A. and Rajkumar Chatterji (Holder of 1st class certificate in Drawing &c., Bombay School of Art)—Physical Laboratory Assistant.

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KING GEORGE'S MEDICAL COLLEGE, LUCKNOW.

THE ADMINISTRATIVE BLOCK.

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BUSINESS NOTICES.

All communications intended for ... addressed To the Editor" and not to any member of staff by name. All communications of a business nature (duly ... changes of address, enrolment as a subscriber) should be addressed to the Manager. All remittances should be made payable ...

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Vol. II **THE COLLEGIAN** No. 2

An All-India Journal of Education.

CALCUTTA, TUESDAY, APRIL 30, 1912

We are glad to present our readers as a frontispiece to this issue, a photo of the Lucknow Medical College. The photo represents the Administrative Block only. We shall be in a position in future to insert photos of other blocks.

King George's Medical College Lucknow

A movement is on foot among influential Mahomedans of Madras to establish a Girls' School for children of well-to-do and high-class Mahomedans. A preliminary meeting was held on April 20th and was attended by a large number of leading Mahomedans, including the Hon. Nawab Syed Mahomed and the Hon. Mr. Justice Abdur Rahim.

Mahomedan Ed. Edu

Miss Lynch, Inspectress of Girls' Schools, who presided, supported the movement if the community was agreed about opening the school.

Mr. Justice Abdur Rahim also addressed the meeting and urged the desirability of adopting English as a medium of instruction. He also said that the proposed school would be strictly Gosha.

Lady Benson, who evinces a keen interest in the education of Indian Women, addressed the meeting, encouraging the movement and exhorting Mahomedans to support it that they may derive the utmost benefit from it.

Next week a meeting of parents was held to receive suggestions in furtherance of the movement.

* * *

The North Bengal Literary Conference met on the Kamakhya hills on the 6th and 7th of April. This was the happy occasion when the nice little town of the far East was graced by the presence of a few distinguished literary men. The difficulty in ascending uphill no doubt told upon the attendance of delegates this year ; but still the organisers are to be congratulated, for whatever success attended

The North Bengal Literary Conference

this session of the Conference, it was due wholly to the energy of a few gentlemen who, for reasons best known to themselves, preferred to work unaided.

* * *

A retired Judge's work on education

The public service of Rai Bahadur Lala Baij Nath, Retired Judge Agra is not unknown to the public. These days he is employed in an enquiry as to the causes of premature mortality amongst the Educated Indians. He requests all the University students to help him in the task and wants information on the following points :—

(1) Conditions under which children are brought up from their infancy.

(2) Life of boys in School. The pressure of studies and the way in which the present system of examinations tells upon their health.

(3) Life in Colleges and the way in which students live in boarding houses, the kind of food they eat, their games and recreations, hours of study and the average monthly expense of a university student in a hostel.

(4) Whether the courses prescribed by the university are not too long and whether they are completed with in the term.

(5) What is the percentage of successful candidates in University Exam. and what are the chief causes of failure ?

(6) Whether the system of Examinations by compartments will prove more beneficial to students.

(7) What is the percentage of married and unmarried students in Colleges and are married students worse than others.

(8) What are the most prevalent diseases amongst students and to what causes are they due ?

(9) What is the daily life of an ordinary student.

THE UNIVERSITIES

CALCUTTA UNIVERSITY.

Senate Meeting April 20

A meeting of the Senate of the Calcutta University was held at the Senate House, College Square, Sir Ashutosh Mookerjee, Vice-Chancellor, presiding. The meeting as usual was a formal one and only lasted ten minutes.

Unveiling of a Portrait

Before the business on the Agenda was taken up, the Vice-Chancellor, in unveiling the portrait of the late Mr. Premchand Roychand, of Bombay, one of the eminent benefactors of the University, said that in 1865, when the University of Calcutta was still in its infancy, Mr. Premchand Roychand offered to the University two lakhs of rupees unfettered by any conditions. That amount had hitherto been applied for the encouragement of higher studies amongst the best graduates. The late Mr. Premchand held an absolutely first place amongst the merchant princes of Bombay, and in an account of his life, published shortly after his death in 1906, it was pointed out that the total amount of his charities came to no less than sixty lakhs of rupees. The portrait was then unveiled amid loud and prolonged cheers.

Affiliation of Colleges.

The Senate, accepting the recommendation of the Syndicate, granted affiliation to the following colleges in the subjects marked against each, with effect from the commencement of the ensuing session :—

Presidency College, Calcutta—Pali to the B. A. Honors.

Rangoon College—Physics to the I. A. and I. Sc. standard.

Baptist College, Rangoon—Mathematics to the Intermediate standard.

Indian Association for the Cultivation of Science—Botany to the B. Sc. Pass Standard.

Griffith Memorial Prize 1910

The Griffith Memorial Prize for 1910 has been equally divided between the following two candidates for the essay noted against the name of each :—

Dr. Syamadas Mukerjee, M. A., Ph. D. (Osculating Hyper-Spheres to Hyper twisted Curves of five or higher Dimensions) Rai Upendra Nath Brahmachari Bahadur, M. A., M. D., Ph.D. (on a new method of testing blood and on some new facts regarding the consitution of erythrocytes).

Ritchie Prize

On the results of the recent Final B. L. Examination, the Ritchie Prize and the University Gold Medal have been awarded to Subodh Kumar Das of the University Law College.

Maharaja of Darbhanga Scholarship 1912

Applications are invited from candidates for the Maharaja of Darbhanga scholarship for 1912. Such applications are to reach the Registrar not later than the 30th June 1912.

The value of the scholarship is Rs. 50 per month and it is tenable for one year only from July 1912 to June 1913.

All graduates and Licentiates in Medicine of the Calcutta University are eligible to compete for the scholarship.

Every candidate is required to state in his application the special subject or branch of medical science in which he proposes to carry on investigation or research work and also to state in what respects his investigations appear to him to tend to the advancement of medical studies. He is also required to state in his application the place where he intends to carry on his research work. If in a recognised laboratory or hospital a recommendation from the head of such laboratory or hospital as to the fitness of the candidate to conduct such work and the probable value of such work must accompany the application. If the candidate intends to carry on investigations privately, his application must be supported by a certificate to the above effect from a Member of the Faculty of Medicine.

The scholar will be appointed by the Syndicate on the recommendation of the Faculty of Medicine.

During the tenure of his scholarship the scholar will be required to devote at least four hours a day, Sundays and holidays excepted, to research work in the special branch of medical science selected by him and approved by the Board of Studies in Medicine, and his work will be open to inspection by a Member of the Faculty of Medicine to be specially deputed by the Faculty in that behalf.

During the tenure of his scholarship every Research scholar will be required to submit short quarterly reports of his work to the Member of the Faculty of Medicine who may be deputed to inspect his work and upon whose favourable report the continuance of his scholarship will depend.

Each scholar will also be required to submit, at the end of his tenure of scholarship, a complete statement which must be typewritten and otherwise ready for publication and which will be laid before the Faculty of Medicine, who if publication be deemed advisable, will decide all questions in connection therewith.

Griffith Memorial Prize 1912

The Griffith Memorial Prize for 1912 will be awarded by the Hon'ble the Vice-Chancellor and Syndicate of the Calcutta University in the course of 1913, and the subject for the prize will be an essay or record of original work in some department of Science.

All persons who have taken the Degree of Bachelor in the Faculty of Arts, or the corresponding Degree in any other Faculty in the Calcutta University, will be allowed to compete for the prize.

Each candidate for the prize is required to send to the undersigned his essay or record of original work under a distinguishing motto on or before the 31st December 1912. The name of the candidate must be forwarded at the same time in a sealed envelope with the motto outside.

Coates Memorial Prize 1912

Applications are invited from candidates who intend to compete for the Coates Memorial Prize for 1912.

The prize will be awarded to the best writer of a thesis on any indigenous drug or drugs to be selected by the competitor himself subject to the approval of the Dean of the Faculty of Medicine. The writer of the thesis must be a graduate in Medicine of the Calcutta University, who has been engaged in the practice of the profession for at least five years.

The names of the drugs so selected must be submitted to the Registrar for the approval of the Dean of the Faculty of Medicine within three months from the date of this notice. The names of the drugs approved by the Dean of the Faculty of Medicine will as soon as possible, be communicated to the candidates who submitted their applications within the specified time.

No prize will be awarded for a thesis on any drug which has not been approved by the Dean of the Faculty of Medicine.

The thesis must be written in English and it must be submitted to the Registrar not later than the 30th November 1912 in a sealed cover with the words "Thesis for Coates Memorial Prize" and the name of the writer distinctly stated on it.

UNIVERSITY OF MADRAS

M. A. Degree Examination, 1912.

Branch II A. (Physics).

The following candidates have passed :—

Register No.	Name.	Class.
29	Ganapatisubrahmanyam, S.	3rd
31	Ramaiya, R.	3rd

Branch II B. (Chemistry)

The following candidate have passed :—

Register No.	Name.	Class.
39	Veeraraghavan, Kadayam C.	3rd

Branch III A. (Botany).

Register No.	Name.	Class.
40	Narasinga Rau, Tripasore V.	(failed).
41	Tyagaraja Rau, Tanjore.	(failed).

THE COLLEGES

Cotton College Gauhati.

Babu Heramba Nath Banerji M.A. Demonstrator in Physics in this College for the last 3 years has been transferred to Rajshai. Prof. Banerji was a successful teacher very popular with the Staff and the students. Before he left the students gave a tea-party in his honour. The function was eminently successful. The enthusiasm with which the students, arranged the whole thing in a few hours time reflects great credit on them and also evinces their great love and respect for the gentleman in whose honour the party was held. Heramba Babu's social qualites are not likely to be soon forgotten by the Gauhati public. The gentry and the professors also arranged a party to bid him farewell. It is indeed with a heavy heart that the students and the staff have been compelled to say good-bye to Heramba Babu. The only redeeming feature is that his successor Babu Tarakeswar Bhattacharji M. A. formerly of the Midnapur College has already shown himself worthy of his predecessor.

The University Examinations are over in this Centre. Universal satisfaction is expressed with the questions set this year; but the B. A. Political philosophy pass paper and the Intermediate Mathematics paper are pronounced stiffer than usual, This seems to be a general feeling shared by the Calcutta and Dacca students as well.

What interests most the Gauhati public and specially the students at this part of the year, is the Inter-school tournament in which all the High English Schools of the Assam Valley take part. This year the sports aroused the keenest possible interest and the number of spectators was unusually large. The prizes were given away by Mrs. Gurdon (wife of the Divisional Commissioner) and by Mrs. Sudmersen (wife of the Principal). It is no exaggeration to say that in no mofussil district town of Bengal are sports so much valued as a part of Collegiate and School education as at Gauhati. Here at least is one point wherein the Bengali boys can profitably imitate their brethren in Assam.

The Madras Agricultural College Coimbatore

The presentation of Diplomas of the Degree of *Licentiate in Agriculture* took place at the College on Friday, 29th March 1912, the Director of Agriculture, Mr. G. A. D. Stuart I. C. S. presiding. The Principal, Mr. R. C. Wood, before requesting the Director to present the Diplomas, made a comprehensive review of the progress of the Institution during the last one year and Mr. Stuart delivered an inspiriting address after the presentation. The following students obtained the Diploma :—

Daniell, S.	Kesava Pillai, N.
Dwarakanath, B.	Madiah, C. S.
George, M. C.	Narayaniah, S.
Gururaja, K. M.	Tyampanna Bhandary, K
Jacob Cheriyan, K.	Venkata Rao, B. K.

Venkata Rao (Mysore Province) secured all the three College medals, Robertson Prize, for proficiency in Agriculture, Keess Prize, for proficiency in Agricultural Chemistry, and Clogstoun Prize, for general proficiency as judged by the classmarks obtained throughout the three years' course.

Mr. W. H. Harrison, Agricultural Chemist and Professor of Chemistry has gone home on leave for 6 months, and Mr. M. R. Ramaswami Sivan, Chief Assistant has been appointed to act for him.

Muir Central College Allahabad

Dr. A. P. Sarcar, Professor Muir Central College, has been appointed to officiate as Meteorologist, Allahabad, *vice* Dr. E. G. Hill, granted leave.

KING GEORGE'S MEDICAL COLLEGE

Work was commenced in the new Medical College at Lucknow on the 16th October 1911, though its formal opening ceremony was performed on the 25th January 1912 by Sir John Prestcott Hewett, who during his inaugural speech announced that His Majesty the King Emperor had been graciously pleased to accord permission for the new College to be called the King George's Medical College.

The College buildings which were designed by the famous architect Sir Swinton Jacob, are built in the Indo-Saracenic Style and comprise the following blocks.

(1) The Administrative block [The photo of which is given in the frontispiece].

(2) The Physiological and pathological block.

(3) The anatomical block.

(4) The mortuary and Post mortem Lecture room. Various other buildings, connected with the College Hospital, have been built or are in the course of construction.

The College and Hospital buildings are situated on the historical site of Machibhavan Fort and face the Gomtee river one side, and the City on the other. Two Hostels for students have also been constructed one near the College and the other across the Goomty river. Practically all the buildings are fitted with Electric lights and Electric fans. Every laboratory is provided with a filtered water supply and oil-gas. Sanitary arrangements in all the buildings are of the most up-to-date character.

The present staff consists of the following members.

(1) Principal—Major W. Selby F. R. C. S. I. M. S.

(2) Professor of Physiology—Major C. A. Sprawson M. D. I. M. S.

(3) Prof. of Anatomy—Dr. S. Saiduzzafar Khan, M. B. B. Ch.

(4) Senior Demonstrator of Physiology Dr. R. K. Kacker L. M. S.

(5) Junior Demonstrator of Physiology Dr. Raghunandan Lal M. B. B. S.

(6) Senior Demonstrator of Anatomy Dr. R. N. Bhatia B. A. B. Sc. M. B.

(7) Junior Demonstrator of Anatomy Dr. Banarsi Das M. B. B. S.

Other Professors and demonstrators will will be appointed as their Services become necessary. At present there is only one class of students, viz the 1st year class and only two subjects Physiology and Anatomy are taught. Next year there will be two classes, and Materia Medica and Pharmacy will be taught to the 2nd year students in addition to Anatomy and Physiology.

There are 27 students in the 1st year class. Most of them are B. Sc's. (in Biology) or F. A's (Biology) of the Allahabad University. In the matter of admission to the College certain concessions have been given to students who joined this year and these concessions will also be applicable to the next batch of students after which any candidate who wishes to join the K. G. Medical College, will have to pass a Preliminary Scientific Examination, if he does not happen to be a B. Sc. in Biology, in which case he will be exempted from the Preliminary Scientific examination.

The full course of studies in the new Medical College which is affiliated with the Allahabad University, will extend over a period of 5 years. Two years will be devoted to the study of Junior class subjects and three to the study to Senior-class subjects there will be three professional examinations as follows:—

1st Professional at the end of the 2nd year.

2nd Professional at the end of the 4th year.

3rd Professional at the end of the 5th year.

To those who pass the final examination the degree of M.B. B. S. will be awarded. A copy of the Prospectus of the College can be obtained from the Principal's Office.

R. K. KACKER

Lucknow.

TECHNICAL EDUCATION

Overseer Examination, Bengal, 1912. Results.

CIVIL ENGINEERING COLLEGE SIBPUR :—*First Trial*—I Division : Kartic chandra Bose, Biswaranjan Bhattacharya, II. Abinashchandra Sarkar, Sudhindranath De, Preonath Sen Gupta, Hugh Edwards, III. Harendra nath Chatterjee, Batakrishna Shaha, William Archi-

bald Gibson and Edwin J. Baptist, Bhupendranath Gupta, Romeshchandra Bhattacharya. *Second Trial*—II. Bishnupada Ray, Syamsundar Batavyal, Biswcswar Bandopadhya and Jeremia Wilks. III Jatindranath Bandyopadhaya.

BIHAR SCHOOL OF ENGINEERING :—*First Trial*—II. Radhicacharan Gui, Raghubir Saran, Syed Abdur Quadar, Manmathanath Banerjee, Gopeswar Das, III. Shivasankar Sahay, Subodhchandra Mitra. *Second Trial*—II. Rishibhusan Ray, Dhirendranath Datta, III. Ramjiban Ganguli, Vindeshvari Prasad and Ashutosh Mukhoti.

DACCA SCHOOL OF ENGINEERING :—*First Trial*—I. Surendranath Gupta, Subodhchandra Ganguli, II. Benodebehary Das Gupta, Satishchandra Datta, Prasannachandra Das, Gopendra nath Sarkar, Rai Mohan Ghosh, Nibaran chandra Das Gupta, Jitendranath Mandal, Surendranath Chakravarty, Manindranath Banerji, Jogendranath Ghosh, III. Balaram Paul, Rameshchandra Guha, Jogendranath Chaudhuri, Subohchandra Gupta, Bidyananda Dawerah, Bhupendra nath Das, Jogendramohan Das, Kumudballabh Mandal, Surendranath Ghosh, Prabodhchandra Bandyopadhyaya, Romeshchandra Mukerjee.

Second Trial—II. Narendranath Mukerjee, Abinashchandra Karmokar, Rajendrachandra Chowdhuri, Atulchandra Dutt, Nripendrakumar Nag, Priyanath Sen Gupta, Sasankabhusan Sen Gupta, Sekendar Ali Talukdar, Jotindrachandra Mazumdar, Sureshchandra Das, Abdur Rahim, Kshitischandra Dutt, Brojendrakumar Roy Choudhury, Bhupatibhushan Sen Gupta, Manindrakumar Mitra, Sarbbananda Dutt.

The following students of the International Correspondence Schools of Kingsway, London, have successfully passed the courses shown against their respective names and been awarded Diplomas therefor :—

J. Godwin, Jammu, Kashmir State.	Electrical Engineering, and Metal Prospectors.
D. D. Zilva, Survey Dept. Mannar, Ceylon.	Surveying & Mapping.
K. Ramkrishna Iyer, Surveyor, Bowringpet, Mysore.	Surveying & Mapping.
Hiralal N. Modi, Jadakhadi, Surat	Complete Electrotherapeutics.
N. R. Waid, Overseer, Sialkot City.	Municipal Engineering.
K. R. R. Aurangabadkar, Zilla Warda, Pulgaon, C. P.	Theory of Textile Designing.

OTHER EDUCATIONAL ADVANCES

THE HINDU UNIVERSITY

We are glad to insert the following report of a meeting held at Cambridge regarding The Hindu University, sent to the Hon. Pandit Madanmohan Malaviya by Professor E. J. Rapson, the President of the meeting.

DEAR SIR,

As President of the meeting of Indian students and other sympathisers held in Cambridge on January 27th 1912, I regard it both as an honour and a pleasure to be asked to convey to you the following resolution which was passed unanimously on that occasion : "That this meeting expresses itself in favour of the new Universities in India and requests its President to send to their organisers messages of cordial approval of their ideals and hearty encouragement of their schemes."

In this country we have heard with deep interest and sympathy of your efforts to establish in India a residential University system, the aim of which shall be to promote education in the highest sense by combining moral and spiritual discipline with intellectual training.

It cannot be doubted that such a system of education wisely directed will produce capable men of high character, and that it must therefore conduce to the peaceful development and to the prosperity of India.

We desire to congratulate you on the success which you have already obtained, and to express the hope that in a not distant future you may see the complete realisation of your ideals.

I am Sir,
Yours most faithfully
(Sd.) E. J. Rapson.

A public meeting of Indians resident in the University of Cambridge and other sympathisers was held at Cambridge on January 27th. It was convened at the request of prominent Indian students ; Prof. E. J. Rapson, Prof. of Sanskrit in the University took the chair.

The President opened the proceedings with a most sympathetic and excellent address. He said, "We are met here to send our heartiest congratulations to the two new universities which have been started in India." After going over the history of the movement he emphasised the fact that religious toleration would be carried out in both universities. There were many ties, he said connecting Aligarh with Cambridge ; in 1884-5 he remembered letters from Aligarh used to appear in the Cambridge Review. He emphasised the value of the residental system which was to be adopted, and gave the example of the growing importance attached to it by the University of London, which had been a purely examining body.

It is my firm conviction that the work which both the Central Hindu College and Aligarh were doing needed a better and larger scope. Human beings are not like potter's clay, but like trees on which new stocks could be engrafted and it was a mistake with English education in India as it has been given since Lord Macaulay's famous minute that it tried to start entirely with new ideas and cut us off from the past. The value of the new universities would be in wisely uniting the culture of both east and west. "The object of a university was to produce citizens" and he fitly concluded with the words used in the University sermons, "from the new Indian universities, may there never be wanting men to serve God both in Church and State."

Mr. I. J. Sorabji (Fitz. Hall) moved the first resolution "that this meeting expresses itself in favour of the new universities in India and requests its President to send to their organisers, messages of cordial approval of their ideals and hearty encouragement of their schemes,"

In the course of a long speech, Mr Sorabji gave a history of the growth of the Central Hindu College of Benares, and said there was no anti-Moslem feeling at the Hindu College. The teaching of religion he defended by saying that only by learning their ancient faith could Indians be made to love their country.

The motion was seconded by Mr. A. K. Sherwani (Peterhouse) who said that the idea of a university was no new one in the East, as could be seen from the ancient seats of learning at Bagdad and Cordova. He gave a history of Aligarh which was originated by Sir Syed Ahmed. He proudly pointed out that though it was called a Mahomeddan College, it was not entirely sectarian, 200 students in the college being Hindus.

The second motion was proposed by Mr. Shujauddin (Fitz. Hall) and seconded by Mr. Prakasa (Trinity) that subscriptions be collected from Indian members of the university towards the funds of the two universities, the proceeds to be equally divided between the two.

Both the resolutions were adopted unanimously, and the meeting adjourned with a hearty vote of thanks to the chair.

METHODS OF HUMAN SCIENCE.

By PROFESSOR BENOYKUMAR SARKAR, M.A.
Lecturer, Bengal National College.

To acquire perfect mastery over a subject it is necessary to adopt diverse methods of study. And the truths that are discovered with the help of these various methods of investigation have to be placed in a systematic order, their mutual relation and co-ordinations have to be explained and adjusted and their unity and harmony organised on a rational basis before they can constitute what is technically called a science.

A variety of scientific methods is specially necessary for the investigation of subjects that are very complex in their nature and phenomena which are intimately connected and inextrically wound up with extraneous and alien matters. For in the cases of matters that bear the influence of diverse agencies the truth which is arrived at by one method of study is not necessarily the same as is disclosed when another method is adopted. All the various methods of truth-investigation must therefore be pursued to get hold of the whole truth ; otherwise our knowledge will be partial and one-sided. Thus, for example, Religious and political subjects, Social and Legal topics and phenomena of Art and Literature which are essentially human in their nature, having their origin in the manifold aspects of man and his life, and the arts and Institutions of civilization

which depend for their progression, retrogression and evolution upon the living and active faculties of human mind present peculiar difficulties to the investigator because of their inherent intricacies and complexities. These subtle, ever-charming and ever-growing processes of the psychical world are evidently not to be attacked by the methods which a scientist adopts to investigate the simple and palpable facts relating to the lifeless objects and organisms of lower order. In such cases varying methods have to be adopted to suit the complex facts relating to each class of human phenomena. And when the truths thus separately discovered have been verified and methodised, the knowledge about man approaches a perfection and system really deserving the name of science.

The facts and phenomena of the human world are always changing their ground ; they are never at stand still. The human mind is progressive and the faculties of man attain a many-sided and varied development. And so there is no fixity and stationariness in human affairs and institutions. Every moment a new is taking the place of the old and thus a 'history' is being made, and an account of such incessant changes history never repeats itself but displays novel types and situations at every stage. Systems of philosophy and ideals of life and thought as well as literature and science are constantly shifting their positions of equilibrium. Human civilisation is in fact, a dynamic process, a living, moving and continuously developing phenomenon with a peculiar history of its own.

Our end will be defeated if we inquire into any one phase or stage of human life. For such a statical study reveals the condition of civilisation at only one stage of its existence. To acquire a full knowledge of a running stream one has to traverse its whole length. If however one places himself at a particular spot on its bank one cannot hope to know of the thousand and one wanderings and the varying characteristics of the different situations before it reaches its goal. One must walk with the stream to know it fully. Similarly to appreciate the growth and development of the human mind and understand in its entirety the stream of human civilisation which has had a gradual growth and evolution we must not confine ourselves to a single chapter or phases or study only certain types of life and culture but must place ourselves in the midst of the varieties and diversities that have characterised human civilisation in its different epochs and seats.

The historical inquiry is thus the apt method of investigating human phenomena and the proper foundation of the sciences about man. The thoughts and actions of men in different times and places are the materials out of which to construct a systematic and coherent human science. That certainly is a very incomplete and imperfect knowledge about man which gives us no conception of the varieties of human ideals in institutions and languages, and diversities of political and social theories and organisations. Such knowledge as does not supply one with the types of human culture and differences in the stand points and objectives of man under the different sets of circumstances is quite useless for practical purposes of advise and guidance in the actual world. For here all institutions and suggestions have to be adapted to the particular conditions of each case.

Thus for example if we want to build up Sciences and arts about wealth and property and generally speaking, about the wants and enjoyments of man, we should try to collect materials for a history of human wants and enjoyments and the various stages in the evolution of property. For in different ages and at different places the wants and activities of man have assumed different shapes and given rise to different socio-economic and industrial institutions. And these institutions have been the out come of man's varying conceptions about things temporal and spiritual and the ideals regulating his whole life and conduct in the universe. In this way, status and contract, domestic system and Factory System, Trades Unions and Joint Stock Companies, Direct Dealing and middle men's, Interventions, Barter and money, have diversified the economic history of human civilisation. Hence Economic Science can not be founded on the study of facts and phenomena of only one stage of man's economic evolution and the generalisations that are based on materials adapted to only one type of institutions and ideals must necessarily be unscientific, partial and erroneous. The same may be said of religion. The ultimate truth about religion and man's religious conceptions and the laws about the growth and development religious sense in man cannot be arrived at from an account of only one

isolated stage of human society, from a description of the religious ideals and institutions that characterise only one age in the history of civilisation. So also in order that we may get a clear idea of the elements of literature, the conditions and criteria of literary perfection and the laws of growth and expansion of literature, the connection between literature and national ideals, we have to study the literary and linguistic facts and phenomena not of any one epoch in human history but of several types of literary life and institutions that have diversified the history of literature in the world.

But though the human mind is essentially progressive and the law of perpetual flux is the fundamental truth about human ideals and institutions so that varieties and diversities are the natural phenomena of the world of human beings, yet their are certain deep-seated characteristics which are common to all times and all ages, that are permanent and universal ingredients of human nature itself. These essentially human characteristics are what differentiate man from the rest of the created world. These supply the fundamental unity and basal uniformity pervading the whole human society—underlying the thousand and one differences and types of physical and mental outfit. They are the neverchanging and stationary elements of human character.

Man has thus two fold characteristics. In the first place he is ever moving, ever varying. In the second place he is fixed and permanent, he does not know change and motion. To grapple with this double nature of man the scientist has to use a double mechinery—the dynamic as well static.

Thus the human sciences are amenable to two methods of investigation *viz.* (1) The historical method which deals with facts furnished by History, the record of changes and movements in civilisation and (2) The Philosophical method which exhibits the fixed and permanent characteristics of human life and civilisation, unities and uniformities of ideals. Each method by itself leads only to partial and onesided truths, and so in the interest of the whole truth we have to use both the methods. If we restrict our enquiry to a particular stage of human society we fail to perceive continuous growth and development the series of vicissitudes that constitute the life and soul of civilisation. But until and unless we devote special attention also to a study of the facts and phenomena of a certain fixed stage in its history, of one of the conditions of its stable Equilibrium, we lose sight of the eternal truths and permanent principle underlying human nature and civilisation—the essential and universal characteristics of man. For though, no doubt, widely different forms of organisation have come into existence in different parts of the world there are certain common characteristics of human nature which have made man essentially a gregarious and political animal and which have left their stamp upon all the varying types of social organisation. Analyse the human mind and the very nature of man or his society at any one of its stages, and facts will at once be disclosed as to whether the association between man and man is indispensable or whether he can supply all his wants independently of others' help. No continued historical accounts is necessary for such an investigation. The study of one man is the study of all. Similarly such questions as the utility of Literature, its inception and its influence and its connection with human mind may be solved by an enquiry into the facts and phenomena of literary history at any one of its stages. So also the economic and religious elements ever present in the human nature, if analysed, may furnish a sound basis of knowledge about socio-religious and socio-economic ideals and institutions. Thus historical evidences and the study of varieties may be dispensed with and an investigation into the essential characteristics of any human being or any one society of men may be substituted for them when the object is to explain such questions as to why men pray, why they establish temples, why they follow doctrines and study religious books; or why arts and industries were invented and why the institutions of property came into being or why economic organisations are necessary.

B. K. Sarkar

THE DIGNITY OF LABOUR.

By Professor V. ThiagaRajan of the Madura College.

The saying, 'a sound mind in a sound body', interprets that body and mind are inter dependent on each other. They both conduce to the happiness of man and he cannot improve the one to the neglect of the other.

The abnormal development of the one is at the expense of the other. So then, the cultivation of body and mind should go hand in hand.

In India there is a bad notion obtaining that manual labour is ignoble and should be looked down upon and that profession is nobler than trade. We will not be wise if we treat labour with contempt. We see all round us that labour commands the manufacture and hence the market. It is labour that decamps coal and other hidden treasures of our earth, that builds ships for us to sail in ocean, that shears dire forests and makes the place lovely and fit for habitation. How then can labour be ignoble?

If India want to have "self-help" the high castes should learn manual labour as a means of livelihood and the other classes would soon follow them. To work at a trade capital is necessary. Capital when added to labour or vice versa gives success in the trade. Of the two labour has acquired a predominance over the other in as much as labour increases the small capital we lay out and hence labour is dignified. The nations of the world are strong in Industries and the Country supplies are to a certain extent manufactured by the Country itself. But India is not proud of any. So, in order that we may stand on our own legs we ought to follow other nation's policy; in doing so we would not only stand on our legs but also help the beggars of our land for which India has earned an Epithet—"The land of beggars"

Let us now see whether there had been any manual labour among the Hindus in the past and if they had how it had fallen. In good old days there had been a well defined division of caste which symbolised labour. This plan was a success in those times. After a time castes became heriditary owing to the selfishness of the Brahmins who were deputed to learn the vedas, and the traditions in the past protected the classes, even as guilds protect members against foreign encroachment. The father was the teacher to his son. This principle should be approved in as much as it conduces to the specialisation of labour. But limiting the scope to choose a profession is thoroughly objectionable. In the Vedic times trade and commerce in India had earned a name in all the Asiatic and European Countries. When India was brought under the yoke of the Mahamadans, trade and commerce received a shock. Again, when it came under the direct control of the British Sovereign matters took a different turn. Their stern and peaceful rule made the people entirely change their life to earn a living and they now occupy a ridiculous position of a square man in a round hole.

Where are the workmen who wove out the Dacca musline, who built the massive and Colossal temples and palaces, who worked at excellent draperies and embroideries? They have all died out owing to the want of encouragement. Even the native Rajahs were silent without giving them work. The old order has changed and the people are now trying to pass some examinations in Arts and Law to get a Government Employment. The Brahmins were the first to study them and the non-Brahmins followed suit in turn. Now people despise labour and their eyes are upon the Government service.

No doubt the west has opened the eyes of the people in the mines of their literature and science but they had not blessed India with technical knowledge. It is not with any selfish motive, (as some people put it), that the Government is quiet on the matter but the spirit of the people is not towards that and the Government is willing to lend capital, if capable men ask for.

Now, how can we create love for labour, teach handicrafts and give work to the poor beggars of our land? This is a serious question which should be grappled with and a practical solution obtained. Our Rajahs should follow the footsteps of our King Emperor who regarding manual labour as an honor became "a competent seaman by undergoing the hardships and drudgery of a sailor's life in calm and in storm by night and by day." By taking up any trade even that of a shoemaker, realise the dignity of labour and the revival of the ancient Industry of India.

Visitors and many well wishers of our country have dinned into our ears the necessity for the Indian Industries. Yet the silence with response to the harangues without introducing manual labour in schools and colleges is indeed deplorable. Among the ardent advisers I may mention Mr. Glyn Barlow and Mr. Cooper of California. Mr. Cooper in his lectures of East and West said that East has to learn much from the West just as the latter has to do from the former. West is materialistic and East is spiritualistic. India

is learning and striving after some stuffs of the western literature to secure a government employment, instead of becoming materially great in the scale of nations. By this I do not mean that western Education is not the thing that is wanted in India. But Education ought to be learnt for its own sake and one should do something else to get a living. If this noble pursuit is followed India would help herself. In conclusion, we would be laying the key stone for nation building by realising the dignity of labour and working at handicraft.

Madura College V. Thiagarajan
Madura 25th March 1912.

INSPIRING LIVES

JOHN BRIGHT

If you would turn to Punch and other contemporary caricaturists of the second decade of the last century you will know something about a much-abused person represented as a reckless and revolutionary adventurer ready to send everything and every body to rack and ruins—a man pugnacious to brutality, the sole vocation of whose life coincided almost literally to that of a prize-fighter. Brutal, as he was represented to be, in his language and manner and aggressive and repulsive in appearance, he was regarded by most men who happened not to share his moral and intellectual calibre, as a huge distemper, the sole solace of whose illstarred existence was to disgorge the violent rodomontade of the dirty demagogue. That man was John Bright—the great orator of the House of Commons. But inspite of all these vitriolic pen punctures of a debased set of holiday politicians, his memory still linger, cherished with reverence and even with fondness by multitudes who have heard or read about him; and where are those who tried to throw a malignant cloak over the frame of his humanity, cast not in inconsistency and compromise as is the survile fashion of the day but in a stern and simple mould? They are all gone—steeped in the oblivious stream of time, and there still stands like a monument of granite the name of one man whose memory still carries with it the potency of all that is generous and magnanimous and great.

As a man

As a man of sober thought, purity of morals, conscious of his place in the world of God, as a peace-at-any-rate man, Bright stands alone on a singularly high eminence. This trait of character lent an extraordinary refinement to his appearance. Almost feminine in the delicacy of the carving of the face—serious and severe as it was—there was a certain shade of bitterness in the tightly compressed lips. His thin and colourless mouth, chiselled like the ancient greek gods in sculpture revealed the innate qualities of the inflexibly honest and fearless man. He was the last link in the chain of the true and patriotic liberals, not of the half rapsodising, of the bloating speculative type but of the genuine puritanic mould. He was the sole survivor of the stern days and the stern men who dethroned and executed Charles I and set up Oliver Cromwell as their leader. His was a vocation which can be well compared with that of Milton. Plain living and high thinking was as much a part of his nature as it was with his illustrious prototype. But stern and puritanically simple as his character was at bottom his heart overflowed with sincere tenderness—a thing well nigh obsolete at this day. In his ordinary intercourse with his friends, his face, lit up with the innate purity of his heart, was an inspiration to his fellows. But when alone, conversing with his soul, it wore a severity of expression the like of which can be seldom seen in our benighted age. It is interesting to note that Milton was his favourite author and the Bible his chief literature. Without any academic training he acquired a simplicity of expression which never once was violent; the Bible gave him a calm authority to his style which like the silent impressible movement of a glacier bore down all obstacles in the way. He never paltered and qualified—what he did and said he executed with the relentless firmness of the seer. Secret and diplomatic irtrigues and equivocat ng speeches of Cabinet ministers were loathsome to him and he threw up his appointment in the Cabinet soon after he joined Gladstone in his ministry, in sheer disgust.

As an Orator

As an orator Bright was the greatest among the great. His style was superb in its simplicity, matchless in its lucidity and if ever there was a voice that swelled with the swell of the heart and pulsated with the throb of a locked-up passion

it was eminently his. Disraeli says in one of his norels that the greatest voice is the low voice laden with passion ; and this, says Mr. O'Connor, is the exact description of the voice of Bright. This extraordinary potency of his voice combined with the sincerity of his convictions and the genuine unconventional purity of his soul made him an orator by nature and by instinct. It was something like a god-given mandate to him, to speak out what he must from the very depth of his heart. Everybody felt a thrill running down his back as he addressed the House with the usual opening words 'Mr. Speaker'. Unlike some of his contemporaries, Gladstone, for instance, he was not a controversial athelete much less an intellectual maggot droning out hair splitting arguments. But when he attacked the policies of some political opponent—and personal attacks he rarely indulged in, he did so in a language of burning wrath which thundering against the enemies of true Statesmanship reverberated in the great hall of the Commons back into the hearts of his hearers. Seeing only one side of the question that which was most in harmony with his noble mind, he used to press the whole force of his manly character and uncompromising judgment on to the person and the point at issue. Promethean like his glowing passion-swayed language entered right into the hearts of the audience and dispelled the gloom of doubt therefrom. Here, for example is a sample of his philippic against the authors of the Crimean War—

"I am not, nor did I ever pretend to be, a Statesman ; and that character is so tainted and so equivocal in our day that I am not sure that a pure and honourable ambition would aspire to it. I have not enjoyed for thirty years, like these noble lords, the honour and emoluments of office. I have not set my sail to every passing breeze. I am a plain and simple citizen, sent here by one of the foremost constituencies of the Empire, representing feebly, perhaps, but honestly, I dare aver, the opinions of very many and the true interests of all those who have sent me here. Let it not be said that I am alone in my condemnation of this war and of this incapable and guilty administration and even if I were alone, if mine were a solitary voice, raised amid the din of arms and the charges of a Venal Press, I should have the consolation, I have thought—and which I trust will be mine to the last moment of my existence—the priceless consolation that no word of mine has tended to promote the squandering of my countries' treasure or the spilling of one single drop of my country's blood."

He was of too stiff a mould to change his opinions with every veering wind. As time passed and with it new political ideas came to light, he remained the same simple stern John Bright as he was in his prime. He could not accommodate himself to changing circumstances and the latter part of his life was a bit embittered from recurring failures and from a state of disappointment at the drift of political affairs at that time. These, with the burden of age showing gradually heavy on his illhealth gave a little acidity to his conversations but till his last days he remained the same grave majestic and sombre autocrat that he was, like an ancient hellenic prophet.

H. N. M.

ARTICLES AND CONTRIBUTIONS ESPECIALLY USEFUL TO STUDENTS

ELIZABETHAN DRAMA 1579-1660.

The Renaissance and the Reformation had served to break the fetters which held ideas from flowing free and thus laid the foundation f the most marvellous age in English literature, the Elizabethan Age. Freethinking was the motto of the idealists of this age. Conventionalities were dispensed with. Men wrote just as they would speak The outlook of life was widened to an enormous extent. Human activities flew on in various directions. A restlessness pervaded the air. The classical lore, the spirit of adventure, which the humanity had conserved during the last few years, now bore fruit and began to work wonders.

The reign of Elizabeth witnessed the noon-day splendour of English literature. It was the age which saw the birth of the enchanting poems of Spenser *Shepherds' Calender* and *The Faerie Queene*, it was the

1. 1552-1599

age of Shakespeare[1]; it was in this age that Bacon[2] enriched the world with his *Novum Organum*; it was during this period that Taylor[3] gave to the world his admirable prose compositions. Sir Walter Raleigh[4] wrote his *History of the World*, and Hooker[5] his *Laws of Ecclesiastical Polity*.

It would be idle to attempt to look into the genesis of the great upheavel in this era. Who can say why Shakespeare was born in 1564 and not a century or a half-century earlier or later. Who is to answer for the fact that Spenser wrote his *shepherd's calender* in 1579 and not on any other date. Of course, the great movements of Renaissance and Reformation were greatly responsible for this. But would the history of English literature have been the same to us if Shakespeare were not born at the moment he saw the light? All I mean is this: was Shakespeare an accident of the hour or was he only an embodiment of an idea—higher and nobler than the outside individual. Who can say whether the world would have been poorer of the law of gravitation, if the particular being called Isaac Newton had not been born at all? Was Newton necessary or a mere agent? I cannot say whether the *idea* was inseparately associated with the *man*, or whether it would have fitted any other just as well. Whatever may be the cause, the fact remains that William Shakespeare was born in 1564 (at least this is the approximate date, as far as ascertained) and gave to the world his master-mind embodied in plays and poems and passed away in 1616.

The Elizabethan Age "is emphatically the age of Shakespeare' from one point of view, for Shakespeare overtops all his contemporaries not less than he does all his predecessors and successors; yet it is scarcely over-bold to assert that had no Shakespeare been, these years we are about to study would still have comprehended the most remarkable epoch in our literature. When that epoch opens the drama had only just begun to approach art; poetry, after its beautiful brief blossom-time in the latter part of the fourteenth century, had been well-nigh barren in the fifteenth, and had borne little fruit in the first three quarters of the sixteenth; prose, trying to shake itself free of the want of faith that would have held it fast fettered to mere controversy or didactics, and from want of insight that would insist on regarding Latin as the only fit medium for the stylist, had scarce done more than come into being. When that epoch closes, we are fain to confess that, had there been neither Elizabethan poetry nor Elizabethan Drama, the prose alone would have sufficed to render the age more than notable for us that, had we only the poetry, we would still regard the Elizabethan age as one of the chief epochs in our literature; and that, if but the drama—, and that without Shakespeare's great share in it—were preserved to us, we could not fail to see that 'there were giants in those days,"*

Drama was the particular theme of the present age. When Elizabeth came to the throne, *morality* plays were in vogue. But the great outbursts of Renaissance and Reformation served to hasten the already-inaugurated innovation—substitution of the allegorical plays by regular secular dramas. The former helped by bading men to seek models in Greek and Latin literatures and the latter by giving rise to controversies in drama, between the Catholics and the Protestants. The first regular comedy was Udall's *Ralph Roister Doister*, first performed in 1551 and published in 1566, and the first regular tragedy was Sackville's *Gorboduc*, first performed 1562.

A set of dramatists—Lily[1], Greene[2], Peele[3], and Marlowe[4] rose. They closely imitated Latin models, were men of scholarly attainments, and were hence styled "University Wits". These writers wrote each in his own peculiar way, and the path which the English Drama was to take had not yet been clearly chalked out.

Marlowe has been discribed as the morning-star that heralded the Sun of Shakespeare. Indeed, there never was another one who could so successfully anticipate Shakespeare, as the author of *Tamburlaine the Great* (1588). Born in the same year with Shakespeare (1564), Christopher Marlowe, or as he is more familiarly called, Kit Marlowe, was edu-

1. 1564-1616
2. 1561-1626
3. 1613-1667
4. 1552-1618
5. 1554-1600

1. 1554-1606
2. 1560?-1592
3. 1588?-1597
4. 1564-1593

* A. J. Wyatt and W. H. Low.

cated at Cambridge, on leaving which he followed the natural bent of his mind, and joined a body of strolling players. In the present association he had had abundant means of indulging in his debauched habits, and he ran into all sorts of excesses. The unfortunate and premature end of this genius is lamentable indeed, for he died by a tavern brawl at Deptford at the age of twenty nine, in the year 1593. Who can say that Marlowe would not have outshone his more illustrious successor, if the unfortunate incident at Deptford had not cut him off in the prime of life. He sleeps in the churchyard of St. Nicholas, with not even a rude stone to mark the place where lies the victim of Francis Archer.

It is all due to this debauchee, that the use of blank verse was introduced in English drama. Drama should be natural, unrestrained and flow evenly like a clear and pellucid stream; any conceit, or stiffness about it, would only argue in its disadvantage; and if any one achieved the grand purpose of undoing the shackles of conceits and artificiality in English drama, it was Christopher Marlowe. His chief fault is *lack of humour*. All his writings are serious and dignified. Perhaps he took the world to be no place for pleasure and amusement and so he struck out the comic scenes of *Tamburlaine*, when the mss. were passing though press. It was a natural melancholy mood of his mind, which may answer for the fact. Besides *Tamburlaine*, he was the father of several other plays—*Faustus*, *The Jew of Malta* and *Edward II*. He was, also, the author of a poem of romantic elegance. *Hero and Leander* (1598). Of those who preceded Shakespeare, besides Marlowe, John Lily, the author of *Euphens* (1579) and Thomas Kyd (1557?-1595?) the author of *Spanish Tragedy* are well known. Others were, George Peele, Robert Green, Thomas Nash and Thomas Lodge.

The eastern sky is aglow with the radiant tints of the rising sun. Presently through the portals of the east, appears a glowing figure and illuminates the world. This is William Shakespeare, who has been so happily described by a well known Bengali poet, "What Kalidasa is to India, you are to the whole world" and none, I think, has described him better. Shakespeare was a whole man, says Prof. Raleigh, and anyone who goes over the pages of Shakespeare's writings, cannot but be impressed with the truth of the statement of the learned professor. Indeed so many things, so many incidents, so many situations are given in the immortal plays of Shakespeare, and they are introduced so naturally, that one would not be out of the mark to think that the whole world is contained in his works. Humour and pathos, pleasure and pain, virtue and vice, religion and atheism, faith and dogmatism, are painted side by side, as they exist in the world. What would have been more natural than the buffoonery of the grave-diggers, when in the act of digging the grave of the fair moonstruck lady Ophelia. Shakespeare wrote straight from the mind. He rarely indulged in second thoughts. Transforming the proverbial expression, "thinking aloud", we may speak of him—*He thought on paper*. He never cared for the language or the ornament. Sufficient it was for him if the idea came somehow or other on the paper; he was satisfied. The language would take care of itself. He never shrank from coining a word, whenever it suited his purpose. 'Fatherd' 'Husbanded' 'childed' were to him correcter forms than the true grammatical expressions. His grammar was also deficient. a singular nominative with a plural verb is no unusual thing in Shakespeare. Such daring licenses were never indulged in by any writer of the world and no writer wrote half so exquisitely as our playwright did. His was the impressionist's use of language, not the grammarian's, says a critic. Volumes have been written about the language the style, the grammar, the lexicography, the figures of speech, and the characters of Shakespeare, and these alone would make a library by themselves. The whole of Shakespeare is a complete science, and it would pay devoting a whole life-time to the study of Shakespeare.

The greatest work of Shakespeare is undoubtedly *Hamlet*. I am disposed to give this admirable and sublime play, the highest place in the literature of the world. There was never a figure, so grave, so serious, so sublime, so pathetic, so touching as the majestic, dignified and solitary Prince of Denmark. The world had lost all its charms in the eyes of the Prince, at the perfidy of one, who should otherwise he the apple of his eyes. The sunshine vanished from his heart and the moonshine was in his head—the result of the perfidy of his uncle, and the queen, his mother.

The "great historical epic" dealing with events of the Wars of the Roses is a monstrous affair. The group consists of *Richard II, First part of Henry IV, Second part of Henry IV, Henry V. First Part of Henry VI, Second Part of Henry VI, Third Part of Henry VI,* and *Richard III.* With the help of fictitious characters mixed up with real personages of historic existence, the history of the land, roughly between 1380 and 1480, has been presented before popular eyes by a patriotic poet and dramatist.

The works of Shakespeare have been classified, grouped, and arranged in more ways than one. Many tests have been prescribed for making out a chronology of Shakesperean plays and poems. Diligent workers have contributed their energies and all, to research of Shakespeare. "No journey," says an admirer of the dramatist, "is too l ng, no trouble too great, if there is a possibility of either resulting in the discovery of the minutest scrap of information respecting the life of our national poet."*

Shakespeare wrote as many as thirty-six plays. *Hamlet, Othello, King Lear, Macbeth,* and *Romeo and Juliet*—all tragedies are considered his best writings. His best Comedy is *Merchant of Venice*; *Richard III* and *Julius Caesar* are the best historical plays of Shakespeare.

How to ascertain the chronology of Shakespeare's works. It is no mere idle recreation, but an useful undertaking which will profit the students of Shakespeare. By fixing upon the successive dates on which the dramatist wrote his several plays, we may very successfully find out the system of the growth of the mind and the art of the writer. Prof. Dowden prescribes for us three kinds of tests—

(1) *Wholly External* Evidences which lie entirely out of the text and has no connexion with the text of the play.

(2) *Partly External and partly internal*—Evidences which lie in the text, though referring to the f cts outside, or *Vice-Versa.*

(3) *Wholly Internal*—"And here the great mass of evidence is of a kind which cannot be precisely stated, or definitely weighed and measured; and yet it is not the less real and weighty. As we do not need a thermometer to inform us of decided changes of temperature and the atmosphere, so we need no scientific test to make us aware that, in passing from *Love's Labour Lost* to *Hamlet*, and from Hamlet to the *Tempest*, we pass from youth to manhood, and again from a manhood of trial and sorrow to the riper manhood of attainment of calm."*

Dowden has very conveniently divided the literary life of Shakespeare, into four periods, and gives each of them a name, which though fanciful, yet carries with it, an amount of significance which is hardly to be put by

First Part: 1590 to 1595-96, noviciate. *In the Workshop.*

Second Part: 1595-96 to 1600-1601, historical plays and joyous comedies. *In the World.*

Third Part: 1601 to 1608, grave and bitter comedies and great tragedies. *Out of the depths.*

Fourth Part: 1608 to 1611, or 1613 romantic. *On the heights.*

I give below a chronological arrangement of Shakespeare's works. It is a very slightly modified form of what Dowden gives us:

A. Experimental Period.

1. Pre Shakesperean Group.

(*Touched by Shakespeare*)

Titus Andronicus ..	...	(1588-90)
1 Henry VI.	...	(1590-91)

2. Early Comedies.

Love's Labour Lost	...	(1590)
Comedy of Errors	...	(1591)
Two gentlemen of Verona	...	(1592-93)
Midsummer Night's Dream	...	(1593-94)

3. Marlowe-Shakespeare Group. Early History.

2 & 3 Henry VI.	...	(1591-92)
Richard III.	...	(1593)

4. Early Tragedy.

Romeo and Juliet (? two dates, 1591, 1596-96)

5. Middle History.

Richard II.	...	(1594)
King John	...	(1595)

* Halliwell Phillips.

* Edward Dowden.

B. Period of Maturing Genius.

6. Middle Comedy.

Merchant of Venice	...	(1596)

7. Later History.

History and Comedy united.

1 & 2 Henry IV.	...	(1597-98)
Henry V.	...	(1599)

8. Later Comedy.

(a) Rough and boisterous Comedy.

Taming of the Shrew	...	(? 1597)
Merry wives	...	(? 1598)

(b) Joyous, refined, romantic.

Much Ado about Nothing	...	(1598)
As you Like it	...	(1599)
Twelfth Night	...	(1600-1601)

(c) Serious, dark, ironical.

All's well	...	(? 1601-1602)
Measure for Measure	...	(1603)
Troilus and Cressida	...	(? 1603 ; revised 1607 ?)

C. Period of Tragedy.

9. Middle Tragedy.

Julius Caesar	...	(1601)
Hamlet	...	(1602)

10. Later Tragedy.

Othello	...	(1604)
Lear	...	(1605)
Macbeth	...	(1606)
Anthony and Cleopatra	...	(1607)
Coriolanus	...	(1608)
Timon	...	(1607-1608)

D. Final Period.

11. Romances.

Pericles	...	(1608)
Cymbeline	...	(1609)
Tempest	...	(1610)
Winter's Tale	...	(1610-11)

12. Fragments.

Two Noble Kinsmen	...	(1612)
Henry VIII.	...	(1612-13)

POEMS.

Venus and Adonis	...	(? 1592)
Lucrece	...	(1593-94)

Marlowe on the right of Shakespeare, who is the middle; on his left come Ben Jonson (1593 to 1637). The fire was kindled by Christopher Marlowe; it rose to white heat in William Shakespeare; and it died out with Benjamin Jonson.

Ben Jonson may be described as only a lesser light of the solar system, whose centre is Shakespeare. Still if ever there was one who may be placed next to the great dramatist, it was certainly this typical London playwright. In his first comedy *Every Man in his Humour*, which was published in 1598, he gave us descriptions of and references to many nooks and corners of the city of London, as well as its suburbs; his other works, too, are not deficient in this respect. It is because of the fact that Jonson introduced so much of contemporaneous London environments in his plays that he becomes at times unintelligible to men, not having an intimate knowledge of London in Ben Jonson's days. In point of characterization, Jonson is very much less comprehensive than Shakespeare. Where Shakespeare paints a man—a whole man, with all his merits, defects, oddities, environments and circumstances,—Ben Jonson paints only a particular quality—'humour'—of man. His characters can be labelled with so many particular names, distinguishing one from another, while Shakespeare's characters are all complete men. Where Shakespeare creates the whole thing, Jonson creates only a part of it; so that he may be said to reproduce in the then modern way, the morality plays of the fifteenth century.

Jonson was a sound classical scholar: Milton refers to him in *L'allegro*.

"Then to the well-trod stage anon
If Jonson's learned sock be on."

Besides *Every Man in His Humour* the chief works of Jonson are *Every Man out of His Humour, Volpone or the Fox, Epicene or The Silent Woman, The Alchemist*, and several masques.

(To be continued) AJAX.

In the Press (Ready middle of July)

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Vol. II **THE COLLEGIAN** No. 3
An All-India Journal of Education.

CALCUTTA, THURSDAY, MAY 16, 1912

Educational Progress in Mysore

From the Government Review on the report of the Inspector-General of Education for 1910-11 we learn that the number of public institutions rose from 2416 to 2460 while the number of private institutions fell from 1876 to 1807. The number of pupils in public institutions increased from 113785 to 115249 while the number in the private schools fell down from 23944 to 22904. The decrease in the number of private schools and in the number of pupils attending those schools has not been satisfactorily accounted for. The total number of institutions, public and private, thus decreased by 25 while the total number of pupils rose by 424. The percentage of boys under institution to the male population of school-going age fell from 28.06 to 27.9 while the percentage of female pupils to the female population of school-going age rose from 5.4 to 5.6. The expenditure increased from Rs. 1,838. 091 to Rs. 1879133 of which amount Rs. 1,181,333 was met from the State revenues.

Collegiate education continued to make satisfactory progress. The state maintains three Colleges and the number of students in these increased from 391 to 438 including four female students. The results in the B.A. and Intermediate Examinations were satisfactory. At the latter examination one Brahmin Lady student from the Maharanee's College was successful. She is now continuing her studies for the B.A. in the same College. The expenditure on the Colleges was Rs. 136673 against Rs. 121494 in the year preceding.

The number of boys receiving secondary education increased from 14294 to 14772. In the year under review, as in the year 1910-11, the number of High schools for boys was 14 of which 10 were Government institutions and 4 Aided schools. The results achieved

by the High Schools, the Government review adds, were not satisfactory and the Inspector-General has been requested by Government to study the causes which led to these poor results. It would be interesting to learn whether these unsatisfactory results were the result of inefficient teaching in the schools, Government as well as Aided, or to want of diligence on the part of the students or due to both these causes.

By far the most unpleasant feature of the review is that devoted to Primary Education which, judging from the Government Order, does not seem to be making much headway. The number of Primary Schools for boys increased from 1845 to 1866 but their strength fell from 64920 to 64956. The number of boys in the primary stage fell down from 98311 to 96974, the fall being due, according to Government review, to the decrease in the number and strength of private institutions which were mostly primary schools. This discloses a serious situation for at a time when the necessity for the extension of primary education is admitted on all hands, it is somewhat discouraging to learn that in the Mysore province the good cause instead of making progress as one would expect is losing ground. However we are glad to learn that Government is alive to the necessity of the expansion of primary education and it has appointed a Committee to revise the curricula of studies in the Primary Schools. We join the Mysore Government in the hope that at no distant date it will be possible to devise a plan for the expansion of primary education and to place it on a sound and satisfactory basis.

We will now briefly allude to the other features of this interesting review. The number of pupils undergoing industrial training rose from 1230 to 1234—a very slight increase—although the number of schools decreased by one.

Muhammadan education made some progress. The number of Muhammadan schools increased from 307 to 310 and the total number of pupils from 17900 to 18632 of whom 13957 were boys and 4695 were girls. The percentages of Muhammadan boys and girls receiving instruction to the total male and female population of school-going ages increased from 64.7 to 66·06 in the case of boys and from 22·9 to 24·55 in the case of girls. The results, though fair so far as they go, show that there is still room for improvement. The number of students in the higher classes were small, 6 only being in College classes. We hope that our Muhammadan friends, who form a considerable proportion of the population in the Province, will put forth more earnest efforts towards the education of their boys and girls.

The decline in the number and strength of private educational institutions and the slow progress made by Musalmans are matters to which the steady and unremitting attention of the Educational Department should be directed. We have no doubt that these subjects as well as the retrogression in primary education which the figures given in the Government review indicate are engaging the earnest attention of the officers of the Department as well as of the Durbar. Whatever may be said of the activity of the Mysore Government in other directions it must be admitted that in matters educational they are pursuing an enlightened and progressive policy and of this there is ample evidence in the Government review.

* * *

Proposed Veda Vidyalaya at Benares

It is proposed to start a Veda Vidyalaya at Benares for the purpose of spreading Vedic truths and light in the world. The institution will impart highest instruction in Vedic learning and will encourage scientific interpretation and research work. With it will be associated a Dayanand High School which will inculcate Aryan Principles besides preparing students for the Allahabad University Examinations. The scheme is estimated to cost Rs. 50,000 and an appeal for funds has been issued. Contributions are to be sent to Lala Gauri Shankar Parshad, Vakil, Benares City, the Secretary.

* * *

School of Tropical Medicine

The Government of India's scheme for the establishment of a school of tropical medicine in Calcutta is now ready and will shortly be sent to England to the Secretary of State for his approval. A non-recurring grant of £33,000 has been made in this year's budget towards its establishment.

* * *

Lectures on Moral Education

It has been arranged by the Bombay Educational authorities that Mr. G. F. Gould, Demonstrator, Moral Education League, London, is to come out to India in January next to

deliver a course of demonstration on moral lessons and lectures in Bombay and such other centres as may be selected by the educational authorities. Mr. Gould is to receive a special fee for his work in addition to free first class passage out and back home.

* * *

Education of Mahomedan Girls in Madras

The adjourned meeting of the Mahomedans of Madras in connection with the proposed girls' school was held on the 26th April 1912 and Mr. Sultan Ahmed informed Miss Lynch that since the last meeting he had consulted parents who were willing to send their daughters to the proposed school and learnt that they were all anxious that Hindustani should be the first language and not English as proposed. Miss Lynch said that if that were so the school would be merely an elementary school and it would not be possible to locate the new school in the premises of Lady Hobart School where poor and respectable Mahomedan girls were taught gratis. A discussion ensued and Mr. Justice Abdur Rahim wished that the present school might be raised to a secondary school. He was also of opinion that there was no necessity of the proposed school if English were not retained as the first language. The gentlemen present decided that the question of requesting Government to raise Lady Hobart School to a secondary school should be discussed at the forthcoming Provincial Educational Conference to be held at Bangalore in the beginning of July.

* * *

Proposed Rajkumar College for Bengal

The scheme to establish a Rajkumar College for Bengal for the special education of the sons of the landed aristocracy of the province has been revived. It is suggested to establish an institution on the same lines as the Rajkumar Colleges at Ajmer and Indore and the Khalsa College at Amritsar. A meeting of the Bengal zemindars will shortly be called for the discussion of the scheme. It is also suggested that the college should be situated at Darjeeling or Kurseong so that students will have the benefit of a bracing climate.

* * *

Law Library for Indian Students in London

Sir Thomas Raleigh has spontaneously offered a suitable portion of his collection of law books, with cases which with the surplus of law books from the India Office and law reports and legal publications from the Government of India will from the nucleus of the Students' law library at the Indian centre in Cromwell Road.

The Secretary of State has granted £150 to fit up the lecture hall, shelves and writing desks and £100 annually for the supervision and up-keep of the library. He also made a non-recurring grant for initial purchases and supplementary gifts.

* * *

Prop Islamia College Peshawar

An Address from the leading Mahomedans of the Frontier Province was presented to Sir Harcourt Butler at Peshawar on the 25th April 1912, in connection with the Islamia Collegeh Sir Harcourt Butler in the course of a speec$_d$ in Urdu refered to the interest taken by Lor Hardinge and Sir G. Roos-Keppel in th movement and said that the committee had secured a magnificent site of over 125 acres at the very gates of India facing Khyber and the college should be worthy of the place and a source of pride to the Muslim world and a monument of their prosperity and freedom under British rule.

Asiatic Society Bengal

At the Monthly General Meeting of May 1st, 1912, Dr. Annandale exhibited frogs and snakes brought by Mr. S. W. Kemp from the Abor foot-hills. The collection exhibited forms a very interesting addition to our knowledge of the fauna of the Himalayas, illustrating a district (the eastern extremity of the great range) hitherto almost unknown. Specimens of at least 20 species of frogs, mostly arboreal in habits, were obtained and of these over a third are new to science, while several (notably species of the two peculiar Burmese genera "Chirixalus" and "Phrynoderma") are of considerable interest from a geographical point of view. No less than 23 kinds of snakes were obtained including three apparently new to science, one of which represents a hitherto undescribed genus. Mr. S. W. Kemp exhibited specimens of Peripatus from the lower Abor hills. "Peripatus" is a very primitive Arthropod which shows relationships with both worms and insects. It had not previously been found within the limits of the Indian Empire nor, in the Eastern Hemisphere, in any locality north of the Malaya Peninsula. The

specimens from the Abor country show some affinity with those from the latter region, but they evidently represent a species hitherto undescribed.

* * *

The Parsi girls' Orphanage

We are glad to note the munificence of Miss Hamabai Framji Petit who has made a gift of all her Jewellery valued at twelve lakhs, for the Parsi girls' Orphanage, which is already in working order. One half of the amount has been realised and till the full amount is not forthcoming, the lady has volunteered to pay a monthly contribution of Rs. 4000.

* * *

Professor of Waiting

The Education Committee of the London County Council have been advertising for a professional instructor in waiting for the new School for Waiters at a salary of £170, rising to £200 a year. The committee are of opinion that none of the applicants is sufficiently qualified for the position. In these circumstances it is proposed to advertise again, this time offering a salary of £200 a year, rising to £250.

THE UNIVERSITIES.

CALCUTTA UNIVERSITY.

Intermediate Examination in Engineering, 1912.

List of Examiners.

Moderator.	B. K. Finnimore, Esq.
Mathematics	Dr. C. E. Cullis. Dr. H. Des Pittard.
Chemistry	W. Tate Esq. E. Watson Esq.
Physics	Dr. P. Bruhl. Dr. Harrison.
Materials of Construction	Chunilal Sarkar Esq. Rai Sahib Benimadhab Mitter.
Details of Construction	T. H. Richardson, Esq. H. Wardle, Esq.
Estimating	T. H. Richardson Esq. Amar Nath Das
Surveying	C. L. Sarkar Esq. Rai Sahib Benimadhab Mitter.
Drawing	S. K. Basu Esq. B. G. Gwyther Esq.

Law Exam. Dates

In supersession of the previous notice it is hereby announced by order of the Syndicate that the ensuing Examinations in Law will be held in accordance with the following programme, only one paper being given each day :—

Preliminary Examination in Law—24th, 25th and 26th June 1912, from 11 A.M. to 2 P.M. on each day.

Intermediate Examination in Law—1st, 2nd, 3rd and 4th July, 1912, from 11 A.M. to 2 P.M. on each day.

Final Examination in Law—8th, 9th, 10th and 11th July, 1912, from 11 A.M. to 2 P.M. on each day.

The Registrar

Dr. Thibaut has taken leave for four months, but no one has been appointed to officiate for him, the duties being divided between Mr. G. C. Mukherji, Assistant Registrar, and Mr. C. B. Maitra, Personal Assistant.

RESULTS OF L. T. EXAMINATION, 1912.

Passed with distinction (*in order of merit*) :—1. Duk Damon Prasad (Patna Training College). 2. Ray, Saradakanta (Dacca Training College). 3. Chakrabarti, Jogendrachandra (Dacca Training College). 4. Majumdar, Manomohan (Dacca Training College).

Pass List.—Abdur Rahman (Dacca). Akshaykumar (Patna). Bandopadhyay, Harendrachandra (L. M. S. College, Bhawanipur). Chaudhuri, Prokaschandra (L. M. S. College, Bhawanipur). Chhatra Dhari Lal (Patna). Das, Akshaykumar (Dacca). Datta, Parbatisankar (Dacca). Fakhruddin Khan (Dacca.) Mitra, Saratchandra (L. M. S. College.) Muhammad Zakat Ali (Patna). Muslehuddin Ahmed (Dacca). Ray, Jatindramohan (L. M. S. College). Ray, Jnanendranarayan (L. M. S. College). Sarma, Rajankanta (Dacca). Sengupta, Prabhatchandra (L. M. S. College). Shaikh Muhammad Abdul Jabbar (Dacca). Shyam Bihary Prasad (Patna).

RESULTS OF B. T. EXAMINATION, 1912.

First Division (*in order of merit*) :—1. Bhattacharyya, Sasankasekhar (Dacca). 2. Mitra, Ambikacharan (David Hare Training College). 3. Bahidar, Ramaprasad

(David Hare Training College). 4. Bhattacharyya, Panchanan (David Hare Training College). 5. Sarkar, Ashutosh (Dacca Training College). 6. & 7. Bhattacharyya, Hiralal (David Hare Training College), Brahmachari, Saratchandra (David Hare Training College). 8. Chattopadhyay, Jugalkisor (David Hare Training College). 9. Basu, Mrinalini (Non-Collegiate Student. Roll Cal. F. N. 1).

Pass List.—Bagchi, Umeschandra (Dacca). Bandopadhyay, Bipinbihari (David Hare Training College). Bandyopadhyay, Saratchandra (David Hare Training College). Bandyopadhyay, Upendranath (David Hare Training College). Biswas, Harshabala (Non-Collegiate Student. Roll Cal. F. N. 3). Chakrabarti, Chintaharan (Dacca). Chaudhuri, Dhirendranath (Dacca). Das, Tridasnath (Dacca). Dasgupta, Pramathanath (Dacca). Datta, Ashutosh (Non-Collegiate Student. Roll Cal N. I.) Datta, Jogeschandra (Dacca) Gangopadhyay, Surathnath (David Hare Training College.) Ghosh, Sureschandra (David Hare Training College.) Guha, Upendrachandra (Dacca.) Hari Narain (David Hare Training College.) Kundu, Chunilal (Dacca.) Laha, Anantadeb (Dacca.) Laha Basudeb (Dacca.) Mahfizur Rahman (Dacca.) Maitra, Ramchandra (David Hare Training College.) Mitra, Sudhansumohan (Dacca.) Nayak, Nirmalabala (Non-Collegiate Student. Roll F. No. 2). Raghuvans Narayan (David Hare Training College.) Ram Narayan Lal (David Hare Training College.) Ray, Durgacharan (Dacca.) Ray, Upendranath (David Hare Training College.) Sarkar, Kshitishchandra (David Hare Training College.) Sengupta, Umapada (David Hare Training College.)

MADRAS UNIVERSITY.

Fellow

Under the Indian Universities act 1904 section 10, the Chancellor of the University of Madras is pleased to nominate the following gentleman to be an ordinary Fellow of the Madras University with effect from 30th April, 1912 :—Mr. Edwin Winckler B.A.

ALLAHABAD UNIVERSITY.

Delegates to the Empire Universities Congress

The Allahabad University has appointed Rai Bahadur G. N. Chakravarty, Inspector of Schools to represent the University at the forthcoming Congress of Universities in London in July and also at the 250th anniversary of the Royal Society in the same month. It is understood that Mr. S. G. Dunn, Professor of Muir College will also represent the University at the Congress.

Registration of graduates

Under the provisions of the Allahabad University Act, the local Government has sanctioned the rules made by the Senate for the maintenance of a register of graduates who will be entitled to elect Fellows to the University. This right is confined to graduates of the Allahabad University who have taken the degree of Doctor or Master in any faculty and to all other graduates of not less than ten years' standing. Graduates wishing to be registered must pay a fee of Rs. 10 and an annual fee of Rs. 2 or a composition fee of Rs. 20.

THE COLLEGES.

Civil Engineering College, Sibpur

In modification of Notification No. 449, dated the 29th January, 1912, the Governor in Council is pleased to appoint the following members to constitute the Governing Body of the Civil Engineering College, Sibpur, as required under Section 21 (1) of the Indian Universities Act (Act VIII of 1904), for the official year ending 31st March, 1913 :—The Hon. Member of the Bengal Executive Council in charge of Education, President ; the Secretary to the Government of Bengal, Public Works Department, Vice-President ; the Director of Public Instruction, Bengal ; the the Chief Inspector of Mines, the Superintendent of Industries and Inspector of Technical and Industrial Institutions, *ex-officio* Mr. W. Tate Professor, Mr. T. H. Richardson, Professor, Mr. W. R. Steele (of Messrs. Burn & Co.), Sir Rajendra Nath Mukherji, K.C.I.E., (of Messrs. Martin & Co.), the Principal, Civil Engineering College, Secretary, *ex-officio*.

The Principal is prepared to receive applications for admission to the Engineer Department from candidates duly qualified under the rules up to 15th June next. All such applications must be accompained by the prescribed registration and examination fee of Rs. 4. All applicants for admission (except those who have already qualified in Drawing) will be re-

quired to appear at a supplementary Drawing Examination that will be held from 1 to 4 P.M. on Monday, 15th July, at the Civil Engineering College and at other Government Colleges if arrangements can be made with the Principals. Copies of the Drawing syllabus and any other information will be supplied on application to the Principal.

Medical College Bengal

The new Session commences on the 15th June 1912. Applications for admission are to be made before the 25th May, 1912.

Ripon College, Calcutta

Raja Peary Mohan Mukherjee and Rai Bahadur Jyot Kumar Mukerjee of Uttarpara have made a donation of Rs. 1,000 each in aid of the Ripon College.

Hooghly Collegiate School

The distribution of prizes to the boys of the Hooghly Collegiate School and the Madrasah took place in the spacious hall of the College on Friday, the 19th instant, Mr. A. G. Hallifax M.A., I. C. S. Commissioner of the Burdwan Division presiding, and Mrs. Hallifax giving away the prizes. There was a good gathering including a number of officials. The report of the Head Master was a record of good work done during the year.

Rangoon Coll Entertainmen by College Stude

The annual entertainment given by the students owing to the Principal going home on leave, was held earlier than usual. On the ground north of the science laboratory was erected a stage tastefully decorated with paper hanging, while in front was an amphitheatre formed by rows of chairs placed in a semicircle. The programme was a lengthy one, though by no means tiring. One new feature this year was a gymnastic performance given by the college troupe assisted with music by the college orchestra. The performance started with the horizontal bar followed by the parallels,the vaulting horse and finished with a torchswinging display. The display was on the whole an excellent one, while symmetrical figures exhibited in the tableaux showed a fine artistic taste. There were two clowns, the part being taken by Tha In and Singhe One would naturally suppose that the proper place for Tha In was the athletic field and that for Singhe the literary field, but it was indeed a surprise to many present that they acted their parts so well. To Instructor Perry of the Border Regiment is chiefly due the success of the performance, considering that he had barely fifteen days in all to train the boys. Then followed the yein dance by four of the leading Burmese artistes of Rangoon. An interval followed in which the guests were served with light refreshments. The second part of the programme began with some Burmese classical songs to the accompaniment of the piano and the harp by local amateurs. The music was thoroughly appreciated by all present. After this an anyein pwe followed, the entertainment coming to an end at 1-30 a. m. It was the best entertainment ever given by the college students.

A High School at Rungpore

At a public meeting held on the 28th April at the Town Hall of Rungpore, under the presidency of Mr. K. C. Dey, District Magistrate, the following resolution was passed :—"That this meeting thinks that an Entrance High School is more necessary for the town than a Town Hall and that the Raja of Kakina be requested to establish an Entrance School in the town with his promised donation ofRs. 20,00 and to contribute a monthly subscription of Rs. 200 for its up-keep.

Punjab Veterinary College

Important proposals have gone to the India Office for the improvement and extension of the Punjab Veterinary College at Lahore. The institution has once more come under the direction of Colonel Pease, late Inspector-General of the Civil Veterinary Department in India, the late principal of the college, Major Smith, having been transferred to Bengal, where he relieves Colonel Raymond as principal of the Bengal Veterinary College on the latter's retirement from the service in June next.

M.A.O. College, Aligarh

The Hon. Dr. Sunder Lal, Vice-Chancellor, Allahabad University, went to inspect the law classes in the M. A. O. College.

The Vice-Chancellor also paid a visit to the Dharma Samaj Pathshala. He was highly pleased with the school and wrote a very

encouraging remark in the visitors' book. He was also pleased to contribute Rs. 500 towards the building fund of the Pathshala besides giving some very useful advice.

AN APPEAL FOR A VEDA VIDYALAYA AT BENARES.

In the face of so many existing institutions at Benares, the scheme of a new institution may at the very outset demand an explanation. From time immemorial Benares has been the seat of Sanskrit learning, and the influence it still exerts on Indian masses is beyond comprehension. From the time of Lord Buddha no reformer worthy of the name ignored Kashi. They were directly or indirectly obliged to disseminate their views through this centre of Sanskrit learning. For tackling problems like the introduction of radical reforms, the eradication of superstitutious customs, the correction of the abuse of priestly power and learned self-willed bigotry, we cannot afford to ignore Benares. Those who yearn to see the reawakening of a nation, now bound down by so-called time-honoured but pernicious social laws, and kept back by the inertia of dependence, will readily see that we need implanting our institutions on scientific grounds. The very idea of the realization of our hidden strength and past glory will vivify our hearts and enable us to look forward to a returning of a great people now sunk into the grossest depths of ignorance and superstition to self-consciousness, ready once more to carry the banner of truth and light into the farthest corners of this world. It was the light of the Vedas which regenerated Aryavarta, and turned its people into a great nationality whose wisdom and spirituality made them fit teachers of mankind, the pioneers of righteous and powerful civilizations and forestallers of modern science and research. We aspire to make this Veda-Vidyalaya a seminary where Sanskrit and English scholars may undertake also post-graduate studies on lines of comparative theology.

The institution will impart literary education that will contribute to the uplifting and upbuilding of the country, and turn out self-sacrificing young men who, imbued with a holy zeal, will carry truth to every corner of India and to distant lands. Benares is specially suited as the seat for the Veda-Vidyalaya. It is the stronghold of orthodoxy and indifferentism, as well as a famous seat of Sanskrit learning, and scholarly bigotry. Thousands of students from all parts of India come here to study Sanskrit literature. The Veda-Vidyalaya, whose object it will be to impart the highest instruction in Vedic learning and to encourage scientific interpretation and research, will soon, in a few years, create a band of scholars, who will be able to shake the superstructure of erroneous interpretation and wilful dogmas to its very foundations. The effect of such a procedure will be a far reaching one. It will strengthen the Arya Samaj, widen the scope of its activities, gain new adherents, secure the sympathy of the learned and broadbase religion on reason and truth.

The institution will be associated with the Dayanand High School which will inculcate Aryan principles and form the minds of the coming generation. The high school will observe the curriculum of the Education Department and will be recognised by the Allahabad University. Sanskrit and religious teaching will be compulsory. Along with the high school there will be a boarding house or the Vedic Ashram where students will be required to observe Brahmacharya and perform their morning and evening worship according to Vedic injunctions.

It is hoped that the present modest beginning will lead in course of time to a stupendous organization which will play a great part in shaping the destinies of future India. Such an institution, which possesses some intrinsic merits, combines so many features of great public utility, will, we are sure, receive a cordial welcome from all persons who are interested in reform, the progress of mankind and the regeneration of India. To carry out these objects, Rs. 50,000 are required at present. The opening ceremony will take place in the first week of July 1912. The control will be in the hands of an influential

managing committee. All remittances are to be made to the Benares Bank or to the Secretary.

GOURI SHANKER PRASAD, B.A., LL.B.,
Vakil, Secretary, Veda-Vidyalaya
and Dayanand High School
Committee, Benares City.

TECHNICAL EDUCATION

Indian Association for the advancement of Scientific and Industrial Education.

The Meeting of the Central Council of the Association for the Advancement of Scientific and Industrial Education of Indians was held on Saturday afternoon at the Town Hall. The Maharaja of Burdwan presided and there was a large number of leading Hindu and Mahomedan gentlemen present.

The Chairman in opening the proceedings in the course of his speech said :—"This year also we are sending out a fair number of students to learn various industries of the West as well as encouraging some to go to Japan—that wonderful nation of modern Asia. I hope that the students will return to this country after learning well the arts and science for which they are being sent and thereby helping towards the achievement which we have in view."

Annual Report

The Secretary then presented the Annual Report which says :—We have up to date 48 District Committees. In Orissa, the Utkal Conference has taken upon itself the work of the District Committees and promised co-operation and a large annual contribution. In Burma, a branch Association has been formed which is paying for one student. Almost all the noblemen of any distinction in these provinces have granted the Association scholarships. The amount of annual scholarships promised is Rs. 20,000.

The Association has started an Agricultural Settlement near Deoghur with 45,000 bighas of land on the co-operative society system. 16-annas of the property have been acquired. Roads, bridges and buildings are being constructed and a large garden has been planted. There are about 300 participators. It is proposed to have 300 buildings and farms and a first class college for boys and a high school for girls, as well as an agricultural and technical school and hospital.

The Government was pleased to write to the Association expressing its willingness to help in the starting of a Technical College. A strong Committee was formed for framing a scheme for such a college. A scheme was framed and submitted to Government. The Government approved of it and has already taken action. The Government of Bengal has also recommended the starting of graduate classes in Industrial Chemistry. Mr. Earle, the then Director of Public Instruction, Bengal, wrote to the Secretary that classes for Mining, Electrical and Mechanical Engineering will be started in connection with the Sibpur Engineering College imparting instruction on a par with the College of Europe.

This year 29 young men are going to England, America, France, Germany, Sweden and Japan.

Resolutions adopted

The meeting unanimously passed the following resolution:—(1) That in the opinion of this Council it is undesirable that the Sibpur Civil Engineering College should be abolished. (2) That the Government be asked to give effect to the scheme or raising the Sibpur Engineering College to the status of a first-class Technological College, teach mining engineering, mechanical engineering, electrical engineering and industrial chemistry for the B. E. Degree which was approved by it, sometime ago. (3) That this Council recommends that capitalists should undertake the starting of the manufacture of hosiery, umbrella and sugar in this country. (4) That the Indian Steam Navigation Companies now existing be requested to combine and start a large company with a good dock. (5) That it is desirable that the people of this country should always give preference to matches, pencil, pottery, printing inks, buttons, combs, leather goods, biscuits, shoe blacking, soaps, dyed cloths, silk chudders and cotton goods of Indian manufacture, more especially those manufactured by the experts trained in foreign countries under the auspices of the Association.. (6) That a memorial be raised to the memory of the late President Rai Narendra Nath Sen Bahadur and that a Sub-Committee consisting of the Maharaja of Burdwan, Mr. J. Chaudhury the Rev. Mr. Le Quesne, Nawab Sujat Ali Beg Khan Bahadur and Rai Jogendra Chandra Ghose Bahadur be appointed to report what form the memorial should take.

Election of Officers

The following gentlemen were next elected as office-bearers for the next two years :—President : The Maharaja of Burdwan ; Vice-Presidents : Dr. Rash Behari Ghose, Babu Surendra Nath Banerjea, Nawab Sujat Ali Beg Khan Bahadur, Nawab Serajul Islam and Raja Peary Mohan Mukherjee ; Treasurer: Mr. A. Rasul ; Secretary: Rai Jogendra Chandra Ghose Bahadur ; Assistant Secretaries: Babu Satyendra Nath Sen and Mr. A. C. Banerjea.

At six o'clock a party was held in the Town Hall to give a send-off to the students going abroad. The hall was prettily decorated with multi-coloured art muslin, flowers and palms. Refreshments were provided for Europeans and Indians. There was a large gathering and a most enjoyable evening was spent.



HARVARD UNIVERSITY U. S. A.

Professor from Germany

Dr. Rudolph Eucken, Professor of Philosophy at the University of Jena has been appointed exchange professor at the University for next fall/autumn.)Professor Eucken was born in Aurich, Germany, in 1846. He studied for four years at Gottingen and Berlin, and then a 1871 became the teacher of gymnasium at Berlin. The following year he was appointed professor of philosophy at Basel, and two years later went to the University of Jena, where he has been professor ever since. He is a very copious author, having written thirty old books on philosophy and its relation to Christianity. His most important work are "The Life of the Spirit," "Christianity and the New Idealism," and the "Meaning and Value of Life." In 1908 he received the Nobel prize as the most eminent philosopher of the time. Nearly all his works have been translated from the original German, and are very popular, being warm and full of enthusiasm and life.

Gifts and legacies during 1910-11

The friends of the University have as usual been generous, the total amount received in gifts and legacies during the fiscal year ending July 1, 1911, having been $1,745,438.72. Among the largest separate sums received are: from the estate of Gordon McKay, an additional payment of $382,377.86; from the estate of Alexander Agassiz, $201,507.50 partly for the cost of the publications of the Museum of Comparative Zoology, and partly for its general expenses; $141,000 for the construction and maintenance of the Collis P. Huntington Memorial Hospital from subscriptions received through Dr. J. Collins Warren ; $100.000 from the Class of 1886 for its Twentyfifth Anniversary Fund; $100,000 from Mr. Adolphus Busch, to be added to his gift for the construction and maintenance of the Germanic Museum; $92,568.75 to be added to the Anonymous Fund; from the estate of Mrs. Mary Hemenway, $45,000, for the Mary Hemenway Fund for Archaeology in the Peabody Museum; from the estate of John Harvey Treat, $40,797.11, for the purchase of books for the Library.

Cambridge University

An anonymous donor has placed in the hands of Lord Esher £20,000 to endow a professorship at Cambridge University in connection with the experimental study of heredity. It is stipulated that the new chair shall be called the Balfour Professorship of Genetics (heredity and variation) and the first appointment be made jointly by the Prime Minister and Mr. Balfour.

Lord Esher, in a letter to the Vice-chancellor of the University, states that the gift was the outcome of a meeting held at Mr. Balfour's residence in Carlton-gardens, S. W., at the end of last year and attended by a few representative members of the University interested in genetics. Those pre-

sent considered a paper written by Mr. Balfour in July 1910 and dealing with the endowment of the study of genetics at Cambridge.

THE WORLD OF UNIVERSITIES

WISCONSIN STATE UNIVERSITY

(U. S. A.)

A Short Report of the Studies in the 1st. Semester, 1912.

First Semester opened September 27 and closed February 7. First recitation began on Thursday morning September 28. The number of Legal Holidays were 14 days. The subjects I have learnt during the first semester are given below with the number of credits attached to each of them and the name of the Professors under whom I have studied.

(i) English		
V. E. Albright (Inst. in English)	2	credits
(ii) French		
C. E. Cousins (Asst. in Roman Languages)	4	credits
(iii) Public Finance		
L. C. Gray (Inst in Political Econ)	3	credits
(iv) Money and Banking		
R. H. Hess (Asst. Prof of Pol. Econ)	3	credits
(v) Medieval History		
D. C. Munro (Prof of European History)	3	,,
	15	credits

(i) English Composition. There was no fixed book. I had to submit 10 essays, containing 800 to 5,000 words. Corrections of ambiguous and complex sentences and criticism of Magazine articles were done in the class. I had to study thoroughly several articles of "Atlantic Monthly" (Oct. 1911) and the North American Review (August 1911). In the first essay I got C, in the second and third C+, in the fourth, fifth and sixth B, seventh and eighth B+, in the ninth B and in the tenth one B+. In the semester Examination I got F+ or C+ which equals to 82%. I have dropped this course this semester.

(ii) French. Text books.

1. French Grammar by Fraser and Squair of the University of Toronto, Canada.
2. Sons Famille (Malot's). Edited by I. H. B. Spiers of William Penn School, Philadelphia.

The grammer contains vocabularies, Exercise of various sorts (English to French, French to English, oral questions to be answered in French as well as in English). I had to study all the tenses and their uses. (Pages 1-83 and 129-158).

Of the text-book Sans Famille, we studied 87 pages from the begining. No outside readings. Occasionally we had to submit summaries of the stories of the book in simple French. The progress was very rapid.

(iii) Public Finance.

a. Text Book. Introduction to Public Finance by Carl C. Plehn PH.D. Professor in the University of California. We had to finish nearly the whole book. (pp. 1-414).

b. Outside readings.

1. Adams, H. C. The Science of Finance.
2. Bastable C. F. Public Finance.
3. Bullock C. J. Selected Readings in P. Finance. Chps II-IX. (pp 11-192) chp. XIII. pp 307-314.
4. Bulletins—
   (i) American Census Report 1909 pp. 34 44.
   (ii) Municipal Mass) pp. 1-6; 41-64.
   (iii) Second Annual Report. Statistics of towns and cities of Iowa State (1908-9) Tables 3-7 and 14-16.
5. Cohn, G. System of National Economy (English translation by Veblen, T. B.) pp. 128-164.
6. Daniels W. M. The Elements of Public Finance. pp. 7-53.
7. Ely R.T. Outlines of Economics. pp. 566-603.
8. Fisk. International Commercial Policy. Chps. 4, 8 & 12.
9. Friedrick List. National system of Political Economy. Chps. 11-13, 26-27.
10. Journal of Political Economy. July 1911 Article on "Tariff and Cost of Production."
11. Marshall. Book V Chp III. Sec. 1, Chp XIII Sec. 1, 2.

12. Mill. Book V. Chp. 1, 11, Chp. 2, Sec 1-5.

13. Selegman. Essays in Taxation (i) Single Tax (ii) Theories of Taxation.

14. Somner W. G. A Small book on Freetrade and Protection. I had to read the whole book hurriedly.

At the end of the semester I had to submit a theme on "Freetrade *vs.* Protection" containing nearly 2,000 words. I have not got back that theme yet.

(iv) Money and Banking.

a. Text book. Money and Banking by William A. Scott, PH.D. Director of the course in commerce and Prof. of Political Economy in the University of Wisconsin. We had to finish nearly the whole book. (pp. 1-308).

d. Outside Readings.

1. Aldrich, Senator. Senate Report. Monetary Commission.

2. Clare George. A. B. C. of Foreign Exchange and Cannon—Clearing House. Small books.

3. Conant, Charle A. The principle of Money and Banking and a History of Modern Banks of Issue. Book v. chs i, ii, xiii-xvi ; vii.

4. Dunbar Charles F. History and Theory of Banking. chps vi-xi ; x, viii, xi.

5. Fiske, Amos Kiddes. The modern Bank.

6. Johnson, Joseph French. Money and Currency. pp. 194-196, 187-194, chp iii, xv.

7. Laughlin J Laurence. The Principles of money. chp i. xii, iii, vii, viii, ix ; x.

9. Macleod Henry Dunning. The theory and Practice of Banking. Vol I. Ch. iv, Sec ii, vi, vii. Chp. xvii, xviii, xix.

10. Mill John Stuart. Book III. Chp. 7, 8,9.

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a. Text Book. (i) History of Western Europe Vol I. by J. H. Robinson. Prof. of History in Columbia University and (ii) Medieval Civilization by Munro & Sellery of the University of Wisconsin.

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8. Cunningham. Western Civilization. Vol. I. pp. 179-209, Vol II. 40-54.

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(i) Charles the Great.

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20. Kingsley. The Hermits.

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27. Stubbs. Constitutional History Vol I Chp 4.

28. Translations and Reprints from the Original Sources of European History. Vol VI. No 4, 3, 5. Vol IV. No 1, 4, 3. Vol II. No 7, Vol. I No 2, 4, 6 Vol. III. No 1.

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Methods of Study. Text book, lectures, note-taking, required reading, reports on topics, recitations oral and written. We had to take notes from outside readings and from the lectures given in the class. We handed over the note book to the Instructor. I got "G" for it. I had to draw 4 or 5 maps (political and commercial).

The results of the 1st Semester.

(i) English. 82% (F+)
(ii) French. 92% (G+)
(iii) Public Finance. 75% (P+)
(iv) Money and Banking 70% (C)
(v) Med. History 83% (F+)

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THE MENACE OF PEDANTRY IN THE TEACHING OF ENGLISH

By PERSIVAL CHUBB, Ex-President Ethical Society, St. Louis, Missouri

What should be the nature of our school and college discipline in the mother-tongue—or let us, who have a polyglot immigrant population to deal with, say rather in the vulgar tongue? That is the question which has been vexing educators in general and English teachers in particular for these past twenty-five years or more. It still troubles us; and according to the view which I shall present, it troubles us in part because our initial efforts to solve it were vitiated by the assumption that the discipline of the young in the vernacular should follow the lines of the traditional discipline in the classic languages. This false first step has involved us in a pedantry that has been a blight upon our well-meant efforts—the cause of all our woe, with loss of reason and many other virtues. It is upon some of the consequences of this academic pedantry that I propose to speak.

It may be profitable to note, by way of seeing our subject in proper perspective, that the history of these twenty-five or more years of struggle to do justice to the vernacular epitomizes the history of that longer struggle of the vernacular against the forces of classicism and antiquarian culture which was an incident of the Renaissance; it is a history which virtually begins with Dante's great essay in vernacular poetry; takes us through the Petrarcan reaction against Dante's example, which heralded the triumphant classicism of the later Renaissance; follows an uncertain and flagging course in such Latinists as More, Bacon, Jonson, Milton, Addison; and, as we track it, brings us into touch with many abortive efforts to provide for training in the vernacular—notably those of Brinsley, Mulcaster, and Comenius. These innovators were overborne. John Locke, a century later than any of them, could write:

There can scarce be a greater defect in a gentleman that not to express himself well either in writing or speaking. But yet . . . . a great many . . . . live upon their estates . . . . who cannot so much as tell a story as they should, much less speak clearly or persuasively in any business. . . . They have been taught Rhetorick, but yet never taught how to express themselves handsomely with their tongues or pens in the language they are always to use . . . .

—a passage which reminds us of the futile relation between our first high-school rhetorics of a few years ago and our later, more sensible and successful efforts to teach the young how to "express

themselves handsomely." We cannot add, in Locke's words, "with their tongues or pens"; for, alas! our labors have been confined to pens only; and we have allowed the tongues to wag as they would. Well, this state of affairs lamented by Locke continued. The universities themselves still send out into the world those whom they have "yet never taught good manners in speech and good taste in literature." Yes, there sits the enemy still enforcing pedantic requirements, and giving pedantic instruction. It is a remnant of this hoary academic tradition that we may recognize in the college-entrance examination method of handling English after the manner of the treatment of Latin and Greek.

We sobered and chastened teachers may perhaps be solaced and encouraged in our own attempts to get English upon a rational basis by realizing how recently and by what sudden turn of fortune's wheel we have been called upon to teach English. The subject is a late addition to the school curriculum. By way of bringing this home in connection with my main point, permit me to use my own case by way of illustration. I began my education under the old regime. In the English grammar school which I attended—a school of the conventional type, the type of Shakespeare's school at Stratford, or Sir Joshua Reynold's school at Tavistock, in my native county of Devon—no English was taught. The study of Latin and Greek was supposed to afford the necessary linguistic discipline. The mother-tongue took care of itself. Why not? Let Chaucer and Shakespeare and illiterates like Bunyan and Burns and Keats answer. They did well enough without drill in English grammar and theme-writing, and without the required study of heavily annotated English texts. For them, as for the middle and upper classes of my own time and place, the language that was spoken was, in the main, that which was written. Men wrote pretty much as they spoke. And the voluntary and enjoyable reading of standard English authors was the great self-chosen school of the gentleman, the scholar, and the author. What were books for but to delight and attract? We schoolboys were not perverted on that point; books were not associated with school drudgery. Every home had its five-foot shelf or its small library in which it was natural to browse when browsing time arrived; and an interest in books and culture was a normal element in good breeding and gentle manners. In short, the literary interests of the young were met and fostered in the home. That is as it should be. School reading is second best—an unfortunate necessity.

But with the development of industry, science, and democracy all this was changed. New linguistic demands arose. I can refer to only one aspect of this change. The "many-headed populace" came to power, and needed a new training. As for the masses, "We must educate our masters," said a famous politician when the new franchise made the working-man a voter in England; and forthwith new educational agencies sprang into life—the university-extension movement, people's palaces, libraries, college settlements, polytechnics; and (what chiefly concerns us here) with the new widened curriculum there came the Oxford and Cambridge local examinations in English. I barely escaped those preposterous papers set by the universities for which one had to cram the Clarendon Press editions of Shakespeare and other writers as one crammed Cæsar and Virgil. How well I recall those little brown volumes, with all their learned philogical annotations by infatuated Dryasdusts, who dealt with the masterpieces of English literature much as Valpy and Anthon had dealt with the Greek and Latin texts—only more so.

Here were the fatal beginnings of that academic pedantry which, confronting a new task in education, proceeded to follow mechanically, and with the inbred conservatism of the scholar, the classical traditions of the Renaissance. I cite the example of England, which I know at firsthand; but here in America we followed England's lead in this respect, and our action was dictated by the same considerations. There was a disastrous failure to discriminate between the pedagogical status of a

classical language no longer spoken and seldom written, and the living, familiar mother-tongue; between the works of writers who, in a new and difficult language, introduced the reader to a distant and alien world, and the works written in and about one's own country by one's kinsmen, written to delight and to make their appeal to the heart and mind of the average well-bred person.

Let us review some other products of this perverting pedantry. The grammars of English were little better than translations of Latin grammars. Their makers were haunted by the classic bias of Ben Jonson, who wrote his English grammar in order, as he tells us, "to free the English language from the opinion of rudeness and barbarism wherewith it is mistaken to be diseased"; and so he conformed it to the accidence of the classic languages, or, in other words, strained many a point to force the material of English speech into the moulds of classical philology. A similarly mistaken point of view lingered on in Lindley Murray, for whom a grammar of the mother-tongue, is to serve the same purpose, for those who speak that tongue, as the grammar of a foreign tongue serves them, namely, to teach them how to speak and write correctly Ben Jonson's grammar was, indeed, written for foreigners; that is in its favour.

Again, who can forget those wonderful texts which vouchsafed the information that words are formed of syllables, and syllables of letters; that there are twenty-six such letters in English, as follows, and so on: that all grammar is divided into four parts—orthography, etymology, syntax, and prosody. And how difficult it has proved to break away from the old point of view, let a specific example indicate. Here is a much used text book of English grammar (edition of 1901) which requires the student (of thirteen or fourteen years) to begin his study of English just as if it were a foreign language. Exercise 1 on page 1, dealing with nouns, reads: "*(a)* In the following sentences pick out the names of persons: Jack is playing with Tom and Alfred"—and so on; all the examples being equally illuminating and equally interesting. The study of verbs a few pages farther on begins with the same sort of requirement: "Fill the blanks with parts of the verb *have*: Each hand . . . . five fingers. George . . . . a present yesterday." It will be observed that these inanities, these insults to the intelligence of the normal child of twelve, bear a family resemblance to the My-sister-has-a-new-hat type of sentence in the elementary French grammar; and they conclusively illustrate the fact that in our English grammars we have been foolishly applying to our own tongue a method that has validity—and a doubtful validity only in the teaching of a foreign tongue, where it at least serves the purpose of aiding the acquisition of a vocabulary along with the mastery of grammatical forms. In other words, the teachers of English failed (as they still do sometimes) to discriminate the work of teaching English from that of teaching Latin or French.

As for that part of grammar called prosody, the same tendency showed itself. Ben Jonson (not quite so great a sinner as Gabriel Harvey before him, who did his best to wreck Spenser) was for conforming English prosody as far as possible to the prosody of Greek and Latin, "to the end," as he says with laudable patriotism, "our tongue may be made equal to those of the renowned countries in Italy and Greece." This attitude has been partly responsible for the general failure to appreciate the metrical genius of English poetry It is only quite recently that we have come to recognize that English prosody has a character as distinctive as that of its accidence; that it must repose on a musical appreciation of the natural accent, rhythm, and word-values of our language.

Furthermore, our practical rhetorics, still in use, usher our stammering (and often foreign-born) boys and girls into the field of composition with forbidding classification and terminology; by discoursing to them learnedly in the opening pages on diction, double negative, euphemism, and the objective genitive; by exercising them in the fine shades of meaning between "labour, work, toil, task, activity," etc., "respect, regard, deference," etc.; and by giving them a "course in errors," in

which they are taught to guard against their depraved tendency to frame such sentences as that "the physician reported symptoms of incipent rubeola."

So much for the testimony of text books. I now pass on to consider some of the practical consequences of this pedantry which confuses the task of the teacher of English with that of the teacher of the classic languages. I would select first of all the failure to recognize that education in the vernacular must be fundamentally a culture of the ear and the tongue. The little child acquires language in that way; the race has transmitted and developed it in that way. Under the old regime, to which I was subjected as a boy, people wrote (as I have said), at least those who could write, pretty much as they spoke. That is the natural and economical way, from which we have departed. Because people tend to write as they speak, the most economical way to get them to write well is to get them first of all to speak well. We do not act on this principle. We ignore the barbarism of the spoken word, and devote our energies to getting our young people to write well. The influence of classical learning and methods—which (at least after the seventeenth century) disregarded the spoken word and aimed at writing only—is obvious. So we have a dual language: the debased language of the street and of vulgar speech, and the (theoretically) standardized language of the schoolroom and of written discourse. The colleges lay no stress upon speech, and pay no practical heed to it. They care not how barbarous a student's oral expression may be; all they ask is correct written language. It is a ridiculous situation. The colleges merely reflect the populace's barbarian attitude of indifference, and tacitly confirm it. They are doing nothing in the interest of a capital form of human culture and good manners. If they—and, let me add, the high schools (and they need not wait upon the colleges in this matter)—insisted upon correct and refined speaking, they would not only be promoting a form of culture and good manners in which we are as a nation conspicuously backward; but they would at the same time be working in the most effective and direct way for excellence in written expression. As it is, they represent a defective type of culture which affects most unfavourably the fortunes of English work in school and college.

There are, let me here interpose, two modern developments which may force the attention of educators to our ways of speech: the need of clear dictation to the stenographer, and the need of clear and even pleasant speech over the telephone. There is a crumb of comfort here, which I would fain share with those who feel as I do in this matter.

We may now follow further the effects of this scholastic insistence upon written values, eye values, book values, and the neglect of oral and auditory values, upon the study and appreciation of literature. There is but little reading aloud of literature in our high schools; and little appreciation of the real sensuous charm of literature, that is to say, of the very essence of literature. The reading of most high-school students is abominable, Speech has no sensuous beauty for them. The fact indicates that we have a narrow conception of what literature is. In the printed page we have merely a scheme of notation which has the same relation to literary values that musical notation has to musical values. A poem, a play, a story is not so much print: it is so much sound, music, the 'heard melody.' A book is a mere device for putting poetry and prose into cold storage. We habitually dwell today in this frigid atmosphere. Yes, and this preservative method is a quite modern device. Before the invention of printing the literature of the world dwelt in the memory. Literature meant song and story on the lips, and out of the heart—breathing and living through the agitated personality in face and gesture, the heard voice of man in its most perfect utterance. Homer, Demosthenes, Aeschylus, and Sophocles *sang*. Rhapsodist, troubadour, Minnesinger and Meistersinger, minstrel, gleeman, and balladist asked the listening ear. So did Shakespeare and other dramatists. They had to write and print to provide the parts for their actors. But what they

were trying to produce was a composite stage result to be caught by the eye and ear. The prose of our greatest work of verbal art, the King James Bible, is prose that is to be read aloud; its lovely cadences are obviously addressed to the ear of the great congregation. I might enforce this thesis by an appeal to the sonorous prose of Berners, Malory, Bacon, and Milton; the conversational prose of Addison and Steele; or the best work of Irving and Hawthorne, which to be fully appreciated must be heard.

It is mere academic pedantry, then, to put almost exclusive emphasis on the printed or written word—cold, silent print—to the neglect of the spoken word. That we *hear* so little good literature is partly the reason why we speak so ill: the ear is not trained by listening to correct and beautiful speech. And, to press our logic still farther, it is also undoubtedly one of the reasons why we write so ill. The ear is no longer a court of appeal. "Does it sound right?" is a dangerous test to apply. We have lost the audi tory feeling for sentence unity and coherence Our punctuation suffers likewise: we have lost the feeling for the varying pause. And I might add that not a little of our bad spelling is due to the same fault Can we wonder that the pupils of a teacher who speaks of Febuary or privelige, should misspell those words?

We have been perverted by the scholar's conception of literature as something to be pored over in book form, silently and solitarily; to be learnedly explicated and discussed—anything but read aloud. Instead we ought to deal with it as something born of delight and intended to evoke delight; something that in most of its forms (the novel is an exception) is addressed to us in a large, human way, through the ear, with the expectation that we shall seize its more general values, its total effects. Think of the plays of Shakespeare, written to give a vivid hour to those rude apprentices that thronged the pit of the Globe, but now submitted to our high-school and college clinics! How those "honeyed corners at the lips" of our great dramatist would widen to smiles or pucker to sneers could he but know of our cold-blooded post-mortems on his plays! We murder to dissect. Let us not flinch at the ultimate question: whether, looking at the purpose with which these pages were written, it is not perversion to use them as we do, and an unlawful and debasing thing to require that they shall be prepared for college and examined upon. Would it be any more absurd to require the student of art to pass an examination on Botticelli's "Spring" or Michelangelo's "Last Judgement"?

The only purpose for which a work of art exists is to produce delighted appreciation, or solemnized admiration. To deepen these feelings is positively our only excuse for teaching it at all. To be sure, a great thing like one of Shakespeare's masterpieces will stand a good deal of abuse. It may and dose survive a great deal of our mauling and overhauling; but that fact does not excuse our literary impiety. Our duty to Shakespeare's is to present his plays and to become acquainted with them as he intended. Should we be led on to examine them more curiously or to meditate upon them in quietude, well and good; but our first duty is to treat them legitimately

There is another aspect of the pedantry of misuse: and that is the careless way we have of requiring our boys and girls to concern themselves with literature that was written for adults, and can only be appreciated by forestalling adult experience and knowledge. It is perfectly certain that no literature was written to puzzle people, or with the expectation that it would need the laborious use of a dictionary and encyclopedia for its elucidation. Our heavy annotations are necessary because are in a hurry, and are asking young people to anticipate the experience and knowledge that come with riper years. I know it is difficult to draw the line here; but I plead for a general point of view. We can put a safe ban upon such works as *Hamlet* and *Lear*, *Paradise Lost* and *Lycidas*, most of Carlyle and Emerson, the *Sonnets from the Portugese* and *One Word More*, as being beyond adolescent reach. But how about *The Tempest* and *My Last Duchess*, *Adam Bede*, *The*

Vicar of Wakefield, *Sir Roger*, and Burke? It is difficult matter to decide and I will not affect to have a settled opinion; but in general we are surely erring by being over-ambitious in our selections. Let us be more anxious to keep the young, young. Let us be disciples of Plato in this matter.

Bearing all these considerations in minds, the task of the English teacher, as I see it, is to escape from all the remaining tramells of academic pedantry and to make of English the vital, formative, ethical force which it ought to be. We must realize that in the lives of the great masses of our people the old unwritten literature of song and story has ceased to be a power, the old folk-culture, which was an edifying and beautifying factor in their lives, has faded; and we are trying to replace it by a scholastic culture which is the feeblest kind of substitute. For the old social and sociable culture of the group or throng—all the balladry and story, legend and saga, folkrime and folklore, festal song and drama—we are offering the pale, individualistic culture of the book, or more commonly the newspaper and the magazine, the rag-time ditty and vaudevillainous skit. And these things are tainted with a vulgarity which is very different from the naive coarseness of folk art.

As for the children, all those who deal with little children know how barren their lives are becoming of all the lovely folk-lore of the nursery and the playground—rime and proverb, song and story, singing game and pantomime—which made the rich subsoil of popular culture in the past. This must be called back into vigorous being: and the life of the boy and girl, the adolescent, and the young man and woman must be enriched and uplifted by something akin to those vital literary interests which the pallid scholastic culture of the book has driven out. Let us recognize in our high-school work that songs are to be sung, stories told, and dramas acted; and that our main business is to send our pupils out into life with a delight in these things; stored with songs they really love to sing, with ballads to recite, stories to tell, dramatic scenes to enact, as well as with a ready power to make a speech, turn a verse, write a felicitous letter or dedication, a valentine, or a Christmas card. Literature and composition must be related to life; their social values and social uses must be revealed.

I have been speaking—permit me to say—not of things fancied or hoped for, but of things known and seen; a social life which was coloured and beautified by literature of the folk; a life which overflowed at times—and not infrequently—with a social song and madrigal catch and round, festal game and mummery, rime and ritual. And when I turn from these memories to this impoverished age, to the unillumined, vulgarized lives our boys and girls lead today, I feel that here is the supreme humanizing mission of the teacher of English, to which we have hardly yet dedicated ourselves: to infect life with the literary impulse in its simpler forms, that is, fittingly to evoke the voices of joy and sorrow, of admiration, hope, and love, in felicitous forms, to dignify and glorify life by literature in its proper association with those arts from which it is scarcely separable—song and recital, dance and drama.

But how will such hopes square with the realities and requirements which we are called upon to meet? I feel that we have two ideals which are far as the poles apart. We can manage, let us suppose, to inspire a pupil with a love of letters. and his work for us has a happy touch of literary distinction. But he is weak in spelling and punctuation. No gracious power of utterance will help him get past the college Cerberus. Has not Cerberus told us that no matter what the trembling youth says in his examination paper, the manner—how he says it—alone counts: and that no matter how inane a paper may be in substance—poor little brains, what can their thoughts be worth anyhow?—a good sentence habit a nd a conscientious regard for the comma and the semicolon will save the day?

Now I am willing to spend a more than reasonable amount of time over punctuation. I am willing even to squander time in the wicked, wasteful attempt to get boys and girls to spell our misspelled

and misshapen language; but my main task is to accomplish the bigger results. I have no doubt that they are bigger, that they are supreme. I care little how a boy spells and punctuates as compared with how he feels about life and about the ideals he has had impressed upon him in his reading: whether he responds to noble and beautiful things, whether he writes with his heart and his imagination in his task. The smaller things will come later; just as a more punctilious regard for spruceness in his dress will follow the negligent habit of unkempt boyhood.

This is, I admit, a matter of relative values and relative emphasis. But I will presume to say that when I turn from the voice of the college drill-master to listen to the voice of the humanist and reformer, I can have not a moment's doubt as to where the emphasis should be placed. I will take large chances on the probability of the smaller points of the law—spelling, punctuation, etc.—coming as by-products, and I am seldom mistaken in this expectation. And so I heed the voice of those who charge our education with gross insufficiency on the ethical sides. The cry is growing louder and more insistent. Education has failed to stay our epidemics of crime and our plagues of corruption in political, mercantile, and social life. The statistics of crime are a disheartening study for those who had indulged high hopes of education. Let me cite the President-Emeritus of Harvard:

It is indisputable that we have experienced a profound disappointment in the results thus far obtained from a widely diffused popular education. . . . . Our forefathers expected miracles of prompt enlightenment, and we are seriously disappointed that popular education has not defended us against barbarian vices like drunkenness and gambling, against increase of crime and insanity, and against innumerable delusions, impostures, and follies.

(He mentions abuse and neglect of the suffrage, spoils in politics, divorce, quackery, etc.)

Well may the teacher of English ask himself why the power of literature, above all other subjects, has not told more favorably against these evils. Why, ah why? Partly because of the pedantry of our methods. Because we have created certain artificial school-room values, instead of allowing literature to exercise its natural and normal power—a power of appeal to the emotions and the imagination. If literature fails of this appeal it fails of its real purpose. And it does so fail to a large extent. And here is, I believe, the explanation of the ethical shortcomings of our education. It does not reach the springs of character—the heart, the emotions. We are suspicious of emotion in education; and it is the only thing that can save us. Literature, as a form of art, must as its master-aim evoke and discipline the great emotions. As a form of art, it must present a clarified and transfigured vision of life; as a form of art, it must give us ideals of humanity and of human society.

The study of English ought to have great practical value, great disciplinary value, great cultural value; but dominating these is its ethical and spiritual value. Let our special interest in it be what it may; let us love its beauty and its technical interest and craftsmanship as we may (as we *must* if we are to teach it); yet our supreme and constant purpose as educators must be that of ministering to the spiritual need of the young: of bringing its mighty influence, its passion and power, its loveliness and its strength, to the refining and strengthening in the young of those nobler emotions and aspirations which are at once the roots of character and its most perfect fruitage.

SANSKRIT DRAMA.

By Mr. I. J. Sonalji, Cambridge *

The Indians have achieved in this branch of literature results which take their place among the highest productions in the world. The history of the Sanskrit drama, and the comparision of it with the drama of other nations, would prove a very fascinating and a very useful study to anyone who would like to take it up and work at it for a lifetime. Unfortunately, there is very little work done in this direction. There is pratically only one book on the subject which in any sense aims to be scholarly or learned, and that is

"Le Theatre Indien" of M. Sylvain Levi. But in this paper I am not taking up the scholarly or critical appreciation of the Sanskrit drama, but am trying to point out some of the important features as they have struck me in the course of my studies.

The origins of the Sanskrit drama are practically lost in antiquity. The drama as it has come down to us is a complete and highly developed art. We can, however, trace its beginning, as in almost all literatures to the ancient religious ceremonies. Even to-day on the great Hindu festivals, like the Dashera and the Janmashtami (the date of Krishna's birth), there are dramatic representations of stories from the history of Rama and of Krishna. The Jatras of Bengal are also representations of a like nature.

In the Vedas themselves some of the "hymns" are merely dialogues, and they are considered by scholars to have been the first beginnings of the drama in Sanskrit. Among the best known of these is the dialogue between the Panis and Sarama (Rig Veda, x. 108), where the Panis, the demon race who have stolen the cows of heaven, are tracked down by Sarama, the messenger sent by Indra, the king of heaven. There are also two other dialogues in the Rig Veda which deserve mention here. One is that between Yama and his twin sister Yami (x. 10), which is based on a very old tradition ; and the other is a dialogue between Pururavas and Urvaci (x. 95), which is used later in a somewhat modified form by Kalidasa for his famous play.

After this Vedic origin of the drama comes a big gap in the middle, and there is as yet no information whatever in this part of literature till we arrive at the fully developed classical dramas. The ceremonial of the Brahmana period was varied and minute in its details, and the arranger of the sacrifice had to be as careful about the precise motions and gestures of the priests as any stage manager in modern days. He had to be sure of absolute accuracy, for the least departure would imply heavy penalties if not a complete failure of the ceremony itself. There were many occasions of dumb show and gesture quite dramatic in their effect. Also doubtless there were a great many folk-plays corresponding to the modern Jatras of Bengal. They are rather a sort of ballad singing in which two or more persons join. Only one such of a much later date has come down to us—the exquisite gem, "Gita Govinda" of Jayadeva. It tells us in music the story of Krishna's loves.

The Sanskrit drama, strictly so called, is certainly not even to-day a dead art. Several Pandits have written plays in Sanskrit, though they may not be of the same high level of excellence as the ancient ones. The dates of these dramas are among the most disputed questions in Oriental scholarship, but that need not deter us from appreciating the merit of the classical Sanskrit plays.

The science of drama, the Natyacastra, is a distinct branch of Sanskrit learning, and is said to have been the work of the sage Bharata. There is a very elaborate scheme of classifying the plays according to the nature of the plot, and the status of the hero and the heroine. Even the particular dialect to be used by the particular person is fixed by rules. There is no reason to suppose that the general public did not understand Sanskrit at that time. Whatever dialect they spoke at home, all educated people understood classical Sanskrit, and the various dialects were after all parts of the same mother language.

According to Sanskrit theory no play can be a tragedy. The most tragic of the plays—"Nagananda"—ends happily,by the hero being restored from the dead at the intervention of the gods. The unities as understood by the Greeks, especially the unities of space and time, are not observed. The absence of these restrictions leads distinctly to a larger field of action, and often many years elapse in the course of a play, or journeys from heaven to the earth are made.

In the Western literatures the dramas that presents the nearest approach to the Sanskrit is the English Elizabethan stage. The mode of developing the plot has some remarkable points of similarity. The device of introducing the super-physical or the psychic has been very commonly used by Elizabethan writers, and also in the Sanskrit drama. The illusion of a fire in the royal palace, as depicted in "Ratnavali," is an instance, and the help it gives in the final denoument may be compared with the position of the witches in "Macbeth," and the ghost in "Hamlet." The use of letters is also a notable device to bring about the final crisis. This is found in the

Malavikagnimitra of Kalidasa. But perhaps the most striking similarity is the use of the play within the play, and used for identically the same purpose in "Hamlet" and in "Uttara-ramacarita." * Another striking point of similarity is the fool or jester in Shakespeare and the *vidushaka* of the Sanskrit plays. In both cases they relieve the tension on the nerves of the audience, but in the most serious plays in both countries they do not exist.

The "Mricchakatika" (or the Clay-Cart) is a remarkable play in many respects. It is a kind of bourgeois comedy, and in its style and contents may be compared to the comedies of Ben Johnson. It is the only play which deals with the daily life of the people, and shows us the gamblers, the police, the officers, the Brahmin, the dancing girl, the common man in the street, as they were in real life. It is attributed to King Cudraka. It begins, as do all the Sanskrit plays, with a *Nandi* or a verse asking the blessing of the deity on the people in the audience, and also on the actors. Then (and this is also common to all the plays) the manager comes on the stage and has a talk with his wife, telling her that a new play by the author has to be performed; in the course of the conversation he leads up to a point where the real characters begin to come in. In the "Mricchakatika" the manager observes preparations for a feast in his honour, and asks his wife to invite some good Brahmana to come to the feast. This introduces the hero, the poor but wise and gentle Carudatta. The plot turns on his love for Vasantasena, the "flower of the town," and how the king's brother-in-law, a low-minded, dissipated ruffian tries to gain her by force. Even in his poverty Carudatta sticks to honesty and honour, and Vasantasena has unswerving devotion for him. The villain, presuming on his position, accuses his rival of a crime, and then comes in the wonderful description of a court of justice. Poor Carudatta is condemned to die, but in the last act all is made well.

Another interesting play is "Mudrarakshasa" (or the "Seal of the Minister"). This deals with the historical events of the time of Candragupta's accession. The chief adviser of the new king is the Brahmana Canakya, who is a master of statecraft, and he wins over the minister of the deposed monarch by a series of very clever and diplomatic moves. The last move is the cleverest of all, for Canakya, after winning over Rakshasa, resigns his post to him and thus unites friends and foes alike.

Before we go on to the greatest dramatists, passing mention may be made of the "Ratnavali," a delightful little piece describing the adventures of the Princess of Ceylon, who is shipwrecked and comes to the Court of the King of Vatsa and lives disguised as a serving maid. The king falls in love with her picture, and the play turns on the intrigues to bring about the union of the king and the princess.

The "Nagananda" is of interest because of its Buddhist tendencies, the supreme sacrifice of the prince to save the life of a serpent, and his ultimate restoration from death. The "Prabodha Candrodaya" ("The Rise of the Moon of Wisdom") is a morality play in which virtues and vices take part. The "Hanuman Nataka" is remarkable for its great length, having fourteen acts.

The greatest names in classical Sanskrit drama are undoubtedly Kalidasa and Bhavabhuti. The first has gained due recognition from scholars, but the latter deserves as great fame. Undoubtedly his very difficult sentences and artificial language have been the chief cause of his being so little read by Western scholars. But in poetic imagery, in powerful, virile diction not even Kalidasa can compare with him. Both are authors of three notable plays. Kalidasa's "Cakuntala" has been praised all the world over, and the fourth act is unsurpassed for its poetry by any author in the world. His "Vikramorvaci" (based on the story of Pururavas and Urvaci) is also a fine piece, quite worthy of its author. The third play, "Malavikagnimitra," is a much less pretentious production. Cakuntala is too well known to be described again. One has merely to repeat the words of Goethe:—

Wouldst thou the year's young blossoms
and the fruits of its decline,
And all by which the human heart's
enraptured, feasted, fed,
Wouldst thou the earth, the heav'n itself
in one sweet name combine,
I name thee, O Cakuntala, and all
at once is said.

* The "c" is to be pronounced as "ch"

"The Vikramorvaci" is the story of how the King Pururavas rescued the heavenly nymph Urvaci from demons. They fell in love, and Urvaci, totolly absorbed in the thoughts of her human lover, forgot all about her duties in heaven, and was sent down by Indra to live with Pururavas. She is united to him after some trouble with the Queen, but has to return to heaven if her husband ever sees her offspring. The husband sees his son in spite of all Urvaci's care, and she is so overcome at the idea of parting from him that Indra revokes his order, and allows her to stay with Pururavas on earth till he himself should ascend to heaven.

Bhavabhuti's three plays are "Malatimadhava," "Mahaviracarita," and "Uttararamacarita." The first and the last named are much superior to the second one, both in style and matter.

Two friends at college had promised to cement their friendship still closer by the union of their children in marriage. The promise was given in the presence of a fellow student, a woman, who, later on, entered a Buddhist nunnery, and who knowing well this incident, subsequently helped much to bring about the union of the young folks when they grew up. The friends separated, and one had a son and the other had a daughter. They come to see each other and fall in love. The young maiden, Malati, has been intended by the king to marry another man quite unworthy of her. The young man Madhava, in despair tries to gain help from magic and so he goes to the burning ground to sell human flesh to the demons. The scene is the most impressive and powerful in the whole range of Sanskrit literature and can compare with the scene of the Witch's Den in "Macbeth" or, better still, with the Walpurgis Nacht in "Faust." At that very time Malati is brought there captive to be sacrificed for some rites of black magic, and then she is rescued by Madhava. The couple are united, but go through some more adventures. In one scene of the play the poet describes the wonderful scenery of his birthplace on the banks of the Godavari, and as a description of nature is unparalled.

The "Mahaviracarita" describes the story of Rama to his conquest of Ceylon, and the incomparably superior sequel "Uttararamacarita" is devoted to following the later fortunes of Rama. The poet chooses the most pathetic incident in all Hindu history—the banishing of the gentle Sita by Rama owing to a baseless scandal in the city. The poetry of this play is of the sublimest order, and Bhavabhuti is fully capable of rising to heights demanded by the deep pathos of the story. Sita is banished to the forest, and there the poet again describes the grand aspect of nature in the land of his birth, and this is in many parts almost exactly a repetition of the same description given in "Malatimadhava." Here Sita gives birth to her twin boys—Kuca and Lava—and they are brought up by the sage Valmiki, who wrote the "Ramayana" to celebrate the history of their great father. In the last scene a play is arranged before Rama depicting the banishment of Sita, in which the part of Sita is played with such pathetic earnestness that Rama is conscience striken, and tries to rush upon the stage. Then the real Sita is ushered into his presence almost fainting with her great grief, and Rama takes back his much-wronged but ever gentle and uncomplaining Sita.

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PROBLEMS OF GENERAL PHILOSOPHY.

By Prof. Sarasvati Devi, M.A., Baroda.

Book I—Introduction.

CHAPTER I.

Definition and Province of Philosophy.

Science gives us general laws and principles which explain the working and development of the phenomena of a particular department of the Universe.

We know that every Science is an attempt at arriving at certain general laws and principles which will explain the working and development of the *phenomena* belonging to a *particular* department of the Universe. Every Science is thus an inquiry into the *nature* of things—*how* they happen and *what* they are. The Special Sciences, such as Psychology, Chemistry etc. content themselves with a systematic explanation of the general laws and principles, according to which the phenomena (whether mental or material) with which they respectively deal are governed and regulated.

Philosophy explains the universe 'as a whole'.

But *Philosophy* attempts to explain the universe *as a whole*—it is an inquiry into the ultimate source of all things, *why* they happen in particular manners and not otherwise.

Science deals with phenomena, Metaphysics deals with the noumena or reality which upholds the phenomena

Science, we have seen, deals with *phenomena i.e.* with the world as it appears to us ; Metaphysics deals with noumena or the realities, which underlie and uphold phenomena, the substance, power or force (whether one or many) which lie behind the conscious experience of finite minds. Again, there is difference in the *Methods of* Science and Metaphysics. Science depends upon observation, experiment and takes the help of induction, but Metaphysics is based on Introspection and Deduction.

The methods of Science are observation, experiment and induction ; those of Metaphysics, reflection and deduction.

Hence science deals with external experience, Metaphysics with internal reason

We thus see that Science deals with a particular department of the phenomena of the universe and follows the synthetical methods of Observation, Experiment and Induction—it has its basis on the external ground of *Experience*, but metaphysics concerns itself with the *nonmena* or the Reality, underlying the phenomena, and employs the analytical methods of reflection and deduction—the basis of metaphysics is *Reason* and not Experience. (See Psychology).

Philosophy is a higher synthesis of both Science and Metaphysics.

But *Philosophy* is a higher synthesis of both Science and Metaphysics. Philosophy attempts to combine the results of all the empirical sciences, whether mental or material, and arrives at an understanding of the world of mind and matter *as a whole*. Both Science and Metaphasies are one-sided—each presenting one aspect of the universe. But Philosophy synthesises and combines the results of both Scientific and Metaphysical inquiries, and gives a rational explanation of the universe as a whole. Philosophy unifies the results of the empirical sciences, supplements them by rational or Metaphysical speculation and arrives at an organic system of knowledge about the whole universe.

Philosophy combines results of science and metaphysics.

Nature of Philosophical inquiry.

Hence Philosophy is the continuous effort to attain to a conception of the world of mind and nature as a whole which will be free from contradictions within itself and will agree with and help us to understand better the facts of experience. Philosophy gives us the ultimate hypothesis regarding the world as a whole and its own relations to it. The word Philosophy is "a collective term for the processes of thought by which we strive to attain a conception of the world as a whole, and of our own place, purpose and destiny as factors of the world-whole, such as will satisfy the requirements of our reason, and will guide and help us in the regulation of our lives. What are we? What have we to do? What may we hope for? These are the questions which Philosophy seeks to answer" (Stephen).

Definition of Philosophy.

The relation of Science to philosophy ; Philosophy supplies the materials which are interpreted and synthesized by philosophy.

Thus we see that Philosophy assumes the empirical results of all the special sciences. Science supplies philosophy with the materials of experience which form one of the starting points of philosophical study and in this sense philosophy may be said to be dependent on the special Sciences. But Philosophy combines the different results of all the different Sciences and tries to form a true conception of the nature and purpose of the ultimate substance or power, which has evolved the world of things viz., the Absolute cause or God of the Universe. Philosophy may thus be said to be "the interpreter of Science." Hence Science and Philosophy may be said to be really correlative to each other, each supplying something which the other wants, in order to give complete and satisfactory knowledge. The Scope of Science is limited to the realm of phenomena or experience, that of Metaphysics to the world of reality, noumenon or reason, while the scope and province of philosophy comprises both the worlds of phenomena and nonmena ; its methods are drawn from both experience and reason ; and the function of philosophy is to combine and interpret the results of the special Sciences and Metaphysics, so as to arrive at an accurate conception of the world of mind and nature as a whole, showing our place, destiny, and purpose therein, helping us to regulate our view in such a way that we might realise our highest good.

Science and philosophy are really interdependent and correlative.

Hence we see that science and philosophy are both interdependent. "A Science without philosophy gives an aggregate of units without organic unity, like body without soul ; while philosophy without Science would

ne like soul without body, *i.e.*, a mere abstraction.

"Philosophy is in truth a continuous endeavour and the reflection of a continuous experience—philosophy must reflect life, it is the exposition of experience. It is experience itself, breaking out into explicitness, blossoming into clear consciousness, comprehending itself." Philosophy (which literally means an enthusiasm, a love for the truth) is, in the proper sense, "the study of the fundamental problems before the human mind and the endeavour to bring an ultimate harmony into all human thought, and action." Philosophy is love for *the* truth, *viz.*, that which unites all the individual truths of the special sciences and Metaphysics into one all-including organic system of knowledge. Thus philosophy needs the truths gained by the Sciences for its work, and every philosophy must be built upon the solid rock of Scientific discoveries and truths.

Philosophy means love for knowledge and truth

"Philosophy looks not only upon the world without and the world within but upon its own interpretation of those worlds." "Philosophy is thus our interpretation of the world coming to self-conciousness," or, more briefly philosophy may be defined as "the Science of all interpretations of the world." (Marvin).

Philosophy is thus Science of the interpretation of the world.

(To be continued)

ARTICLES AND CONTRIBUTIONS SPECIALLY USEEUL TO STUDENTS.

ELIZABETHAN DRAMA (1579-1660)

(Continued from Page 50)

"The Silver Age of the English drama," says Thompson, "means the reign of the twin artists Francis Beaumont[1] and John Fletcher[2], whose work exhibits all the good and bad qualities of their period—its exquisite command of harmony in verse, its tendency to mere luxury of sound, its passage from genuine pathos to false sentiment, its defect of moral vision, and the cause of all these failings—its loss of a genuine sense of humour and of the just proportion of things". The names of these two authors are as inseparably associated with each other as those of Wyatt and Surrey. Nay more; Surrey was only a friend and follower of Wyatt; but Beaumont and Fletcher combined their talents to produce the one and the same thing. The work of each is incomplete without that of the other; each is the complement of the other. The chief of their works are *The Maid's Tragedy* and *Philaster*.

Other dramatists of this age, were Thomas Middleton (1570--1625), author of *The Changeling*, John Webster (1580—1625), author of *The Duchess of Malfi*, Philip Massinger (1583—1640), author of *the Spanish Viceroy* and John Ford (1586—1640). This latter may be said to have brought about the decadent stage of the Elizabethan drama; and good drama practically died for ever in England, after this, but for a few intermittent flashes, in the hands of Goldsmith and Sheridan.

AJAX.

1. 1584—1616.
1. 1579—1625.

ELIZABETHAN POETRY, 1579 to about 1630

With the publicatian of *Shepherd's calendar* in 1579, the history of English poetry entered a new phase of life. "There were new poets," say Messrs. Wyatt and Law, "in plenty soon after this, for, almost suddenly as it seemed, the land was again 'fulfilled all' with songs." "The number of Elizabethan miscellanies, of collections of 'songs and sonnets', bears witness to the quantity of verse-writers and and readers in those days: the beauty of much of the work testifies to their quality. Among the chief of the lyrists Shakespeare and Spenser, there appear Sidney, Marlowe, Watson, Daniel, Constable, and Drayton, while very many lesser authors of the time wrote love poems of singular beauty". *

Mr. Stopford A Brooke resolves the existence of English poetry, after 1579, into four phases. "Spenser", he goes on, "Spenser reflected in his poems the romantic spirit of the English Renaissance. The other poetry of Elizabeth's reign reflected the whole of English life. The best way to arrange it—omitting as yet the Drama—is in an order parallel to the growth of the national life, and

* Wyatt and Low.

the proof that it is the best way is, that on the whole such an historical order is a true chronological order. *First* then, if we compare England after 1580, as writers have often done, to an ardent youth, we shall find in the poetry of the first years that followed the date all the elements of youth. It is a poetry of love, and romance, and imagination, —of Romeo and Juliet. *Secondly*, and later on, when Englishmen grew older in feeling, their enthusiasm, which had flitted here and there in action and literature over all kinds of subjects, settled down into steady enthusiasm for England itself. The country entered on its early manhood, and parallel with this there is the great out-break of historical plays, and a set of poets whom I will call the Patriotic Poets. *Thirdly*, and later still, the fire and strength of the people, becoming inward, resulted in a graver and more thoughtful national life and parallel with this are the tragedies of Shakespeare and the poets who have been called philosophical. These three classes of poets overlapped one another, and grew up gradually, but on the whole their succession is the image of a real succession of national thought and emotion. A fourth and separate phase does not represent, as these do, a new national life, a new religion, and new politics, but the despairing struggle of the old faith against the new". *

In short, the four stages through which English poetry passed after the year 1579, represents the successive phases of the growth of national life,—Love, Patriotism, Philosophy, Satire.

The Shepherd's Calender, published in 1579, is a series of twelve Æglogues,"Proportionable To the Twelve Monethes." In these "æglogues" imaginary sheperds debate upon question of morality and politics. Compliments are paid to high and illustrious personages. Spenser introduced English atmosphere in his work. This combined with his extraordinary imaginative power, served to popularize Spenser, and procure him patrons. He was presented to the Queen, and thus was laid the foundation stone of his courtiership. Spenser went to Ireland with Lord Grey de Wilton, when the latter was nominated Lord Deputy of Ireland in 1580. Spenser was his private secretary. He received an estate at Munster, which, however, was in 1586 confiscated by the English Government. At Ireland he finished the first three books of *The Faerie Queene.* At this stage, the mss. were shown to Sir Walter Raleigh, who procured, for Spenser, a pension of £ 50. At Ireland, he also wrote several poems of less importance.

Spenser's greatest work, however, is *The Faerie Queene.* Originally Spenser intended it to contain twelve books, each depicting the victory of a knight, who would symbolize a particular virtue over another knight, who would symbolize a vice. Only six books were given to the World ; of the other six we know nothing. Each of the six books contain twelve cantos. The hero of the whole work is the celebrated King Arthur. Around him congregate knights who are deputed to acts of humanity. Each book is practically a list of the exploits of one knight and each canto in it deals with fairly one exploit. Properly speaking, the six books are connected together, the link being King Arthur. But each book may be taken account of separately and there is nothing to point out its unity with the previous book. The stories, moreover, are all of the same nature. One knight meets another knight ; and the true knight gets the better of the false knight. This is almost the gist of all the stories.

I have said that there is an allegorical significance running through all the six books of *The Faerie Queene.* But apart from this, many individuals of Spenser's time are typified by characters presented in the allegory.

Of Spenser's minor poems, the chief are *Complaints*, a collection of poems, *Daphnaida and Astrophel*, *Epithalamion*, and *Amoretti*, a series of sonnets.

A word must be said about Spenser's metre. His versification is based on *Ottava rima*—the metre used by Tasso, in his 'Orlando Furioso' and by Aristo, as well as by Chaucer in his 'Monk's Tale.' This metre was, however, modified to a certain extent. To the usual eight lines of ten syllables each, Spenser added a ninth line of twelve syllables (Alexandrine). This step has served to enhance the melody and harmony of Spenser's verses.

"Sidney," say Messrs. Wyatt and Low, "the scholar, courtier, statesman, the gallant soldier whose muse tempers her words to trampling horses' 'feet,' the hero in whose life and death every lofty ideal seemed to be

* Stopford A. Brook

realised, has left his monument in the poetry he wrote, as well as in the sweet sad strains sung over him after 'God had disdained the world of that most noble spirit,' as his friend Spenser has it." He was one of the splendid trio—Spenser, Harvey and Sidney. Sidney was born at Penshurst in Kent, His father, Sir Henry Sidney, was a courtier and held many high offices in the state. The younger, Sidney, was born in 1554 and died a heroic death at Zutphen on the 17th of October 1586.

The chief work of Sir Philip is *Arcadia*, published posthumously in 1590. This is, however, a prose romance and fails beyond my present ken. Of his poetical works, may be mentioned the excellent series of one hundred and ten sonnets called *Astrophel and Stella.*

The two poets, who have gone before are undoubtedly the best of their time. Of others who, though contemporary with Shakespeare, yet extended their reign to the reign of James, (who had been, by some styled by the name of 'Jacobean Poets') very little need be said, because none of them seems to have made a mark for himself. Still Samuel Daniel[1], Michael Drayton[2], John Donne[3], Bishop Hall[4], John Marston[5], the Fletcher brothers[6], and George Wither[7] are prominent enough to grace the pages of the literary history of England.

Samuel Daniel was a patriotically inspired poet, which spirit gave rise to the poem, *History of the Civil Wars between the Two Houses of Lancaster and York.* Another historical poem of his is *Complaint of Rosamund.* His best political work, however, is *Delia*, a collection of sonnets, which can stand favourable comparison with the best of Elizabethan sonnet writings. Drayton, like Daniel, was a poet inspired by history. His chief work is the admirable *Polyolbion* (1613-22)—a historical and topographical poem of thirty cantos, written in Alexandrines, rhymed. His *Mortimeriados* or *The Bar'ns War* (1596-1603) is a most important work.

Donne, Hall and Marston are celebrated for their satires—a new kind of writing hitherto unattempted except by George Gascoigne, who died in 1597. Hall was the best of three, Donne next ; Marston comes last.

Bishop Hall, was the author of the six books of *Virgedemiarum* (Red Harvests) ; the first three books—'Toothless Satires,—being published in 1517 and the remaining three—'Biting Satires'—in 1598. He acted on the mode of Juvenal's satires. His invectives were vigorous and forcible.

Donne is considered to be the founder of the 'Metaphysical' school of English lyrists—"a school whose members were distinguished by a turn for nice speculations of philosophy and for 'elaborate conceits', strained similes and fantastic images." John Donne was the author of seven *Satires* and *Epistles.* I quote from *A Valediction forbidding Mourning*, a stanza, which is typical of Donne's style of writing:

"Such wilt thou be to me, who must
Like the other foot obliquely run
Thy firmness makes my circle just
And makes me end where I began."

Marston, however, is no big figure and is far inferior to Hall and Donne. His chief satirical work are *Certain Satires* and *The Scourge of Villany.* Giles and Phineas Fletcher are cousins of the dramatist Fletcher. Their writings were chiefly religious. Both these poets were imitators of "the great master of allegory," Edmund Spenser. Giles was the author of a poem in four cantos, *Christ's Victory and Triumph* ; Phineas produced *The Purple Island.* This poem published in 1633, is "a minute description of the human body, with all its anatomical details, followed by an equally searching delineation of the intellectual faculties."

George Wither is the author of a volume of satires *Abuses stript and whipt*, *The shepherd's Hunting*, and *Fidelia.*

AJAX.

1. 1562-1619.
2. 1563-1631.
3. 1573-1631.
4. 1574-1656.
5. 1575-1634.
6. Giles, 1585-1623, and Phineas, 1582-1650.
7. 1588-1667.

CONTRIBUTIONS FROM STUDENTS.

"SOLON MADE MEN AND LYCURGUS MADE MACHINES."

Freedom of thought and action develops the intellectual capacity of individuals as well as of

nations. If any individual or nation has always to work under the guidance, and blindly follow the orders of the leader, the work may, for the time being, be done well but gradually the intellectual power gets blunted.

The whole administrative Machinery of Sparta was to be "wound up by the tyranny of a fixed principle." Literary education, which enervates the Mind and Soul, was carefully neglected in the case of the Spartan Citizens. They were made to despise the study of eloquence, the main object of Lycurgus being to cultivate martial spirit only and make the Spartans invincible in battle.

Even in Social and domestic matters, Lycurgus brought about changes congenial to the development of warlike spirit in the hearts of the Spartan children. In order to instil the soldierly spirit into the young hearts of the Spartan boys the charge of education was entrusted to the controlling power of the State. Newborn babes, if considered deformed and weakly, were to be done away with, and no sooner the suckling attained the age of seven he was to be snatched away from the protecting arm of his mother, to be trained up in severe military exercises and endurance of physical pain. Plutarch, in this connection narrates the story of a Spartan boy who had a fox hidden under his clothes and suffered excruciating agonies without moving a muscle for fear of being considered a coward.

Up to his thirtieth year a Spartan youth was considered a minor; he was compelled to remain a bachelor, could not take part in public assembly and was not eligible to the offices of the state. To crown all, he was not allowed to dine at home and compelled to take his meal at the public table in Sissitia, the drill-ground or Gymnasium. After thirty, though he was allowed to marry, yet his barrack-life did not come to an end and he was not permitted to live at home with his wife except in private. "Spartan wedlock was a duty owed to the State rather than a voluntary union."

All these unnatural restrictions on the freedom o fthe individual were directed to the sole end of turning him into a good soldier, hard in body, callous in mind; and undoubtedly they had the desired effect: As a sarcastic contemporary once remarked "The Spartan's life was made so unpleasant for him that it was no wonder that he threw it away without regret in battle."

The Popular Assembly of freemen of 30 years of age and over in Sparta, was known as the "Apella". It had only been able to shout its assent or dissent and could only vote by acclamation. It is also said that at some elections the matter was settled by shutting up the returning officer in a room, out of sight of the assembly and compelling him to decide which of the shouts that he heard from without was the loudest.

If we have before our mind's eye the constitution of the Spartan Government as formed by the legislation of Lycurgus, we see that its actions were not determined by the principles arrived at by the exercise of the intellect of the nation, but the whole of it was a Systematic Machinery acting according to the same single form of laws laid down by Lycurgus. And it is for this reason said that Lycurgus turned the Spartans into so many machines.

On the other hand we see that the aim of Solon was to construct a constitution in Athens which should give the proletariate an ultimate control over the administration of public affairs without allowing them the power to interfere in matters of detail.

The doctrine of non-interference was the predominating principle in the legislation of Athens. Its objects were the establishment of a friendly relationship between social classes, the removal or modification of injustice with the introduction of a Social legislation, which promotes progress and guarantees the moral and material elevation of the lower and middle classes.

In Athens, unlike Sparta, real freedom of thought and action had full play. Thought was considered, as it were, the common heritage and everyone was at full liberty to cultivate it according to his own sweet will. Excess in anything is bad, and as it is natural the unbridled

liberty of the Athenians had sometimes its excesses; but it did more good than harm to the people of Athens. The freedom of thought and action imparted energy and splendid success in every department of their national life.

Solon, the Soldier-poet of Athens, preached a crusade against the wrong-doers, alleviated the misery of the people and brought about happy reforms in the economic condition of the people. He ameliorated the oppressive condition of the debtors, forbade the lending of money on the security of the borrower's person, brought about perceptible and beneficial changes in the condition of the community, entrusted the moral supervision of the people to the Areopagus and the administration of the State to the worthy Eupatridæ. In short, he enacted numerous laws containing regulations on almost all subjects connected with the public and private life of the Athenians. Thus, the manumitted debtors increased in prosperity, trade flourished, civil liberty became secure and the political, social, domestic moral and economic condition of the people became highly elevated.

Even the lowest class of people in Athens had the power to vote in the general assembly of all citizens and could enjoy the right of electing the Archon and other offices of the State. They were not the "tools of the State," as the Spartans were, but they were really themselves the State. And thus it is very aptly said :—

"Solon made men
&
Lycurgus made machines."

JATINDRANATH MUNSHI
St. Columba's College
Hazaribagh.

SCIENCE NOTES ETC.

A boy Mathematician

The following details are given by the Cochin correspondent of the *Madras Mail* regarding a boy named Armugaon, who goes about with a notice which says that 'all charitably disposed gentlemen are requested to test his ability and reward him according to his deserts.' The boy was not much to look at. He is of the Jalia caste, poorly dressed, and might be taken for a coolie boy on the road. He knows no English except the names of the numerals and mathematical expressions and the impresario who accompanied him was similarly ignorant; and conversation was carried on through the interpretership of the butler. With pencil and paper I laboriously worked out a sum, 976 into 79 and then gave him the figures. The answer came as soon as the figures were out of my mouth—77,104. The next sum given him was much longer *viz.*, 982,347 into 231, and the answer came in about 2 secs. *viz*, 226,922,175, expressed by the boy in crores and lakhs. It was too laborious to be working out long sums which it took the boy only 2 seconds to work, so I fetched an arithmetic book 'with answers.' The square root of 853,776 was given in an instant, 924, and the cube root of 274, 625 just as quickly, 65. Finally we gave him a crucial testing—Rs 78,987 10as. 6p. into 9787. The figures would be so many in the working that I fancied he would forget them, and I anticipated that he would fail. But no! In about 5 secs. came the answer correctly—Rs 77,32,10,167-0-6. The boy was prepared to do as many sums as we liked to set him, compound interest, discount, or whatever we fixed upon; but we felt that there must be a severe mental strain in such feats and were unwilling to tax him further. How he got at the answer of such a long sum as the last I cannot for the life of me conceive. He seemed to work by a process of intuition, and it would be physically imposible to arrive at the answer in seconds by processes that are known to ordinary men. I take it that in the interest of mental philosophy the boy's case is worth serious investigation, and that he deserves a better fate than strolling from door to door, like a performing goat, to catch a rupee or so for a performance.

Perpetual Light

Strange as it may seem, there exists a perpetual lighthouse, needing no keeper, and yet as regular in its flashes of light as one maintained by the Government.

This natural light never fails, and that means much for navigation. It is a volcano on the Island of San Salvador. This volcanic lighthouse is about eight miles inland from the port of Acajutla. It is a veritable pillar of cloud by day, and the flash of its light by night has been valuable to mariners for years.

It can be seen far out at sea, and a burst of flame has gone upward every seven minutes without the variation of a second for years. A lighthouse fee is collected from all vessels that put in at the harbour nearest the volcano and no skipper objects.

He knows that the volcano is more reliable than the lighthouse kept by human beings on other coasts, and the novelty of the light is worth the price charged by the Government.

New Electrical Plant at Harvard

Harvard University, Boston, is planning for an electrical era. An alternating-current transformer, with a capacity of 1,000,000 volts, a machine twice as big as any hitherto constructed, is to be installed in the University. This is the first step in a movement to provide heat, refrigeration, light, and power for Boston direct from the coal fields of Pennsylvania. Moderate estimates place the date five years hence when Boston will have done away with sooty chimneys, its coal-carrying system, and its facilities for disposing of ashes, and when coal strikes will not worry the householder or business man. Boston will then be using electricity generated hundreds of miles away in the Pennsylvania coalfields, where coal costs a few pence a ton. Since the great strike in England American electrical engineers have been studying with renewed ardour the problem of replacing local furnace heating by electrical energy.

Spectrum of New Stars is unique

Professor Edward C. Pickering Director of Harvard laboratory has discovered through a photograph taken at the Harvard Astronomical Laboratory that the hydrogen line on the spectrum of the new star discovered by Professor Errebo at Dombaas, Norway shows dark instead of the usual bright yellow.

If this dark line continues it will form the basis of a new star theory, and perhaps upset some of the existing theories concerning the origin and composition of stars. Professor Pickering stated that "because the star had not been seen before it must not be taken that it has just been formed. It is several hundred years old beyond a doubt. The equation of light is such that it takes that long for the rays to come that distance to the earth."

Determination of Geological ages

In the course of their annual review of the progress of research at the Imperial College of Science and Technology, the governing body of that institution refer to the very interesting results achieved by Professor Strutt, F.R.S, in connection with the measurement of geological time by radioactive methods. Search has been made for minerals containing a great amount of helium relative to the radiocative matter present, and in some cases ages as great as 700,000,000 years are indicated for the minerals. A direct measurement of the rate at which helium is formed in thorianite and pitchblende has been carried to a satisfactory conclusion. This investigation fully confirms theoretical anticipations, and gives the calculation of geological ages an increased strength and directness

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CUTTINGS.

HARVARD AND THE INDIVIDUAL

By L. B. R. Briggs.

(Continued from Page 39)

"But what of the relation between student and instructor?" In a small college the Faculty know, or think they know, every student. Between the large college and the small there is a real difference in the relation of the instructors as a whole toward the students as individuals, and in the relation of the students as a whole toward the instructors as individuals. In Harvard University are over three hundred professors, instructors, and assistants under the Faculty of Arts and Sciences

alone, of whom more than a third are members of that Faculty appointed either for a term of years or without limit of time. No teacher knows by sight every other teacher; still less does any teacher know every student. Yet many teachers know more students than they would or could know in a small college; and every student is known by several teachers besides his Freshman "adviser." Even the large lecture courses are so combined with laboratory work or conferences or excursions that the students in them are brought into contact with the younger teachers if not with the older ones. There is, I believe, no college in which the the relation between instructor and pupil is more delightful. The maturer students are frequently consulted in matters of general importance and frequently called upon to help other students who need the strength that comes from strong friends. Many instructors invite students to their houses, or keep certain hours clear, as the University preachers do, for any and all students. Every Christmas Eve Professor Norton opens his fine old house at Shady Hill to all members of the University who are away from home. Some young men, it is said, stay away from home a day longer to meet Professor Norton thus; and their host would forgive them if he could know the charm of an evening with him.

Within a few years the wives of certain University officers have instituted a series of afternoon teas on Fridays between Thanksgiving and the first of March, and have invited all members of the University. The teas, on which students at first looked sceptically if not scornfully, are now fairly established. They have done much in giving newcomers what they sadly need—the society of refined women—and in giving all students opportunities of meeting persons whom it is a privilege to know. The room used for the teas is the large parlor of Phillips Brooks House; the rug in the centre was Bishop Brooks's own; and the bust in the adjoining hall, with the tablet beside it, leads men's thoughts to him for whom the house was named, and in whose honor it was delicated to hospitality as well as to piety.

The homesick Freshman from a distant State finds atCambrigde a better welcome than he expects, though no kindness can at once and forever annihilate homesickness. Some years ago a well-known professor walking through the College Yard at the beginning of the autumn term met a young man whose aspect prompted him to say: "Are you looking for anybody?" The young man answered: "I don't know anybody this side of the Rocky Mountains." Of what immediately followed I know nothing, but can guess much. Of one thing I am sure—the young man is today a loyal graduate of Harvard College. Nowadays the newly arrived student finds waiting for him, even before he meets his "adviser," a committee of instructors and undergraduates whose business and whose pleasure it is to help him adjust himself to his new surroundings. Nor has he been long at the University before he is invited to the room of a junior or a Senior, to meet there a few members of his own class, as well as members of other classes. There he and his classmates are entertained by the older men, who often give them serious and sensible advice; and there they are made to feel that they are "taken into the team." "Entertained," I said, not hazed, as of old; and though the decline and fall of hazing may cut off Freshmen from the instantaneous friendship of co-operative self-defence, few will regard it as a mark of degeneration. To at least one of these entertainments every Freshman is invited, for the large committee of Seniors and Juniors in charge assigns each Freshman to some one man. Freshmen are invited also, by their class president to social evening meetings, for which purpose, since scarcely any room can hold them all, the class is sometimes devided into squads of fifty or sixty. Again in the new Harvard Union, which, like so much else, the University owes to Mr, Henry L. Higginson, the newcomer find countless opportunities of scraping acquaintance with his fellows.

Probably the sick student is better and more promptly cared for at Harvard than at any other university in the world. Here, as elsewhere, a taciturn and courageous person may bear much

pain and desease without revealing his bodily state to a physician ; but nowhere is such conduct less necessary and less excusable. Every student not well enough to attend College exercises need only send word to the Medical Visitor, who will come at once to his room and tell him what to do. If the case is srmple the Medical visitor gives advice and, if need be, a prescription ; if it requires prolonged medical attendance, he sends for any physician that the student may name. He himself keeps fixed office hours in the College yard for consultation with such students as need him ; nor does he receive pay for any part of his work as Medical Visitor beyond his salary from the University. The promptness and the devotion of this officer reduce to a minimum the danger of contagion from epidemics. For the care of the, sick, Stillman Infirmary has already a nearly perfect equipment ; and the new ward for contagious diseases will make the infirmary complete.

As to moral aid for the invidnal students, no one who is not inside of Harvard life can begin to know how many young fellows are aiding the weaker brethren to lead clean, sober, and honest lives ; how much responsibility of all sorts the best students will take, not merely for their personal friends but for anybody that they can help. Some years ago a young man of strange and forbidding character was seen running round and round on a Cambridge sidewalk, imagining that he was Adam fling from temptation ; and though obviously insane he was put into the station house. The case was made known to a student who as a child had attended the same school. He had never known the sick man well, and had never known good of him ; yet he got his release from the station-house, promising to be responsible for him through the night. With the aid of a fellow-student he took into his own rooms the insane man, and gave him the bedroom. He himself with his friend sat up all night in the adjoining study. Into this study the mad man would issue from time to time, making night hideous to the two watchers ; but they did not lose patience. In the morning the student in charge secured a physician, assumed the responsibility of a guardian drove with the sick man to the nearest asylum. advanced money (of which he was notoriously short) for necessary expenses, and then, exhausted hastened to New York to meet his feilow-members of the Hasty Pudding Club (who had started, I believe, the night before) and appeared as a smiling star in the performance for which he had been so strangely prepared. No casual observer would have dreamed that in this apparently thoughtless person were the quick courage and devotion which made inevitable the acceptance of a revolting service for a youth who was almost an outcast.

The University is a little world with all the varied enthusiasms of athletic, intellectual, social, and moral life ; and in spite of the temptation here as in other worlds, little or big, for men to break up into small and exclusive groups, the number of students who have with their fellows an acquaintance wide and varied is exceedingly large. Our wiser students recognise the truth of the late Lord Dundreary s famous proverb, "Birds of a feather gather no moss," and act accordingly. Moreover there are few communities, if any, in which a man may stand more firmly on what he himself is and does, trusting to be judged thereby. I doubt whether any student within my memory was ever more warmly admired and loved than Marshall Newell, a farmer boy. He was, it is true, an athlete, "an athlete sturdy, alart and brave." Athletics made him widely known ; what made him widely loved was not athletics but the strong, healthy, simple and fearless heart, which revealed itself in his athletics as in everything else about him ; and when he died one of the social leaders of his college days said sincerely that it was worth while to spend four years in Harvard College, merely to have known such a man as he.

(To be continued)

SPORTING

MONEY SPENT ON ATHLETICS AT HARVARD.

The Graduate Treasurer of the Harvard Athletic Association has issued the financial report for the year ending July 31, 1911.

For purposes of comparison, the tabulated figures as given below for the past year, are made up on the same basis as in 1910. These show a loss for the year ending July 13, 1911, of over $10,000. The total receipts were $112,000 as against $130,000 for the year ending July 31, 1910 a decrease of about $19,000, due largely to a decrease of $2,000 in receipts from baseball and $14,000 in receipts from football. The expenses decreased from $127,335 to $112,920, or about $4,500.

	1910.		1911.	
	Receipts.	Expenses.	Receipts.	Expenses.
Care of buildings and grounds,	———	$12,164.63	———	$11,094.72
General account,	$2,187.84	14,612.52	$2,346.33	13,764.00
Permanent Improvements,	———	10,597.99	———	4,242.10
University Baseball,	21,651.84	11,177.31	19,579.63	12,063.51
University Boat Club,	3,330.00	15,480.18	4,221.60	16,279.91
University Football,	88,387.48	31,071.81	74,456.08	29,027.09
University Track Team,	4,407.48	8,994.90	2,776.80	10,001.81
Association Football,	73.00	576.83	20.00	1,381.48
Basketball	———	18.25	———	21.65
Baseball Second Team,	33.00	213.92	162.50	435.44
Fencing Team,	———	281.53	260.00	838.67
General Athletic Class,	———	———	———	112.50
Golf Team,	———	———	———	5.84
Gymnastic Team,	222.43	286.60	59.80	183.09
Hockey Team,	1,850.82	2,908.20	1,000.00	3,803.62
Lacrosse Team,	174.75	2,273.85	———	2,049.34
Lawn Tennis Association,	22.25	283.82	158.05	291.10
Lawn Tennis Courts,	3,139.40	1,920.34	3,845.09	2,060.52
Newell Boat Club,	759.00	2,448.75	956.00	2,923.50
Swimming Team,	267.85	465.02		
Weld Boat Club,	1,275.00	3,280.95	1,075.00	4,038.24
Wrestling Team,	325.00	328.39	175.00	381.25
Freshman Association Football,	———	6.85	———	103.86
Freshman Baseball,	615.10	1,113.97	160.54	999.00
Freshman Crew,	756.25	2,153.63.	———	2,721.43
Freshman Football,	751.15	3,342.35	794.25	2,891.75
Freshman Hockey Team,	———	185.51	34.10	315.57
Freshman Lacrosse Team,	43.75	100.00	———	101.35
Freshman Track Team,	688.68	1,040.59	17.25	788.48
	$130,962.07	$127,335.76	$112,097.93	$122,920.82

THE METROPOLITAN INSTITUTION COLLEGE DEPARTMENT.

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New admissions registered from June 3, 1912.

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Also Botany by arrangement with the Indian Association for the cultivation of Science.

All Combinations allowed.

II. *B. A. Examination.*

Subjects taught—English (Pass and Honours), Bengali Composition, Sanskrit (Pass and Honours), Pali, Methematics (Pass and Honours), Physics, Chemistry, History, Ecnomics and Political Philosophy and Mental and Moral Philosophy.

All Combinations allowed.

III. *B. Sc. Examination.*

Subjects taught—Mathematics, (Pass and Honours), Physics and Chemistry.

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(3) *Attached Messes* under supervision of the Principal and a *qualified Doctor* for them.

(4) *Sports* in Marcus Square.

(5) *Six Hardinge Cricket Prizes* awarded to students and boys of the Metropolitan Institution.

VI. *Staff*

ENGLISH—J. R. Banerjea, M. A. B. L., (Duff Scholar, Maharaja of Vizianagram Scholar, Hawkin's Gold Medalist, University Gold Medalist and Prizeman &c), Fellow of the Calcutta University (Vice Principal), K. L. Nag, M. A. (formerly Principal, Jagannath College, Dacca and Radhakanta Gold Medalist), A. T. Mitra. M. A. Purna Chundra Raychaudhury, M. A. (Late Principal, Bhumihar Brahman College, Muzafferpur) and a Tutor to be announced later on.

Bengali Composition—Kali Krishna Bhattacharyya, Radharaman Vidyabhusan and Ram Krishna Vidyabhusan.

Sanskrit—Kali Krishna Bhattacharyya. Radharaman Vidyabhusan and Ram Krishna Vidyabhusan.

Pali—Amulya Charan Vidyabhusan.

Mental and Moral Philosophy—J. R. Banerjea, M. A, B. L, and K. C. Gupta, M. A., B. L, (formedy Principal, Daulatpur Hindu Academy).

Logic—K. C. Gupta, M. A.

History, Economics and Political Philosophy—Manimohan Sen, M. A. and Nripendranath Dutt, M. A.

Mathematics—Saradaranjan Ray, Vidyavinode M. A. (Principal), M. Ray, M. A. and S. C. Bose M. A.

Physics—Anath Nath Palit M. A. (Honorary Lecturer in Physics, Indian Science Association) B. C. Ghosh, M- A.,, M. B., B. C. (Mathematical and Natural Science Tripos, Cambridge and University Lecturer), P. C. Bose M. A. and Rajkumar Chatterji (Holder of 1st class certificate in Drawing &c., Bombay School of Art)—Physical Laboratory Assistant.

Chemistry—P N. Das M. A., H. K. De, M. A. (Woodrow Scholar), H. L. Dass Gupta, M.A. and S. L. Mukherji, B. Sc (Demonstrators).

Law—J. R. Banerjea M. A., B. L., Surendra Chandra Sen, B.L. and P. K. Sinha, Barrister-at-law.

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THE LATE MR. W. T. STEAD.

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BUSINESS NOTICES.

All communications intended for the Editor should be addressed "To the Editor" and not to any member of staff by name.

All communications of a business nature (advertisements, changes of address, enrolment as a subscriber) should be addressed to the Manager, and all remittances should be made payable to him.

NOTICE TO CORRESPONDENTS.

Correspondents are requested to write legibly on one side of the paper while sending in MSS. for the press.

Communications intended for publication must be accompanied by the name and address of the writer not necessarily for publication but only to satisfy the Editor.

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Vol. II **THE COLLEGIAN** No. 4

All-India Journal of Education.

CALCUTTA, THURSDAY, MAY 30, 1912

The late Mr. W.T.Stead

We are in a position to present our readers as a frontispiece to this issue a photo of the great journalist whose irreparable loss the world is so deeply mourning.

Proposed Science Institute for Calcutta

It is refreshing to note that proposals are in progress for the establishment of a Science Institute at Calcutta. The proposed Institute will, we understand,be directly under the University of Calcutta, like the University Law College, but it will be helped by private and Government donations as well. The courses suggested would include the Higher Science Degrees of the Calcutta University viz. from B. Sc. Honours, as also Technical Science. We hope that a really first class thing would be launched into existence, worthy of Calcutta and of the Premier University of India.

* * *

A wholesome Proposal

The Hon. Mr. Devaprasad Sarvadhicary deserves the thanks of the Educated Community for his suggestion to have a Central Institute in England for Indian Students going there. "No worthier or more effective memorial" he says "of the visit of Their Gracious Majesties to India could possiblybe raised at a comparatively insignificant cost." Mr. Sarvadhicary offers a thousand rupees as his humble contribution. We give below a gist of the proposal as put by Mr. Sarvadhicary himself.

"I beg to suggest that we should have by public subscription supplemented if need be by Government aid a Central Institute in England where selected Indian youths, proceeding there for education, and selected English youths, qualifying and preparing for Indian careers, may be brought up together,

so that they may know and understand one another from the beginning and have the requisite training and culture ensured under the same roof, a thing not attempted by any of the existing organisations which may well club their resources torwads the one end I advocate. By a curious irony of fate the London University is yet without a fitting local habitation of its own. The proposed Institute for housing English and Indian students together may well be India's present to London and be raised as a worthy memento of the Sovereign's visit to this country for the worthy object of permanently paving the way to mutual better understanding of Indians and Europeans whose lot will be cast together in future. The initial costs of finding a building and appliances need not be more than ten lakhs which the princes and people of India can and ought to be able to raise, if they like, immediately and without difficulty. And the Universities and the Government can be asked to guarantee the small recurring costs which will be supplimented by fees. By this means Indian students in England will be much better looked after and controlled than in the near past, and it is a scheme that, under proper auspices ought to be worked successfully in no time. His Excellency the Viceroy may be appealed to be the Patron of the scheme, and Provincial Governors and Lieutenant-Governors and Territorial Chiefs may be its Vice-Patrons."

Royal Societies Club London

The Royal Societies Club of London, which is an Association nf Fellows and members of the principal learned Societies, Academies, Universities, Library, Scientific and Art Institutions of the British Empire and was established with the object of affording facilities for social intercourse and reunion between them, has elected the Hon. Babu Devaprasad Sarvadhikari as an Honorary Member during his stay in England.

Survey of Mammals

The Bombay Natural History Society is endeavouring to make a systematic survey of the mammals of India, Burma and Ceylon. The total amount so far obtained for the enormous survey is Rs. 29,500, out of which some Rs. 7,790 has been spent. Two collectors have been brought out to India, Messrs. G. C. Shortridge and C. A. Crump, and from the experience already gained the society thinks that the work will take at least four or five years to complete.

* * *

Sir Theodore Morison on "Enlightened form of Swadeshi"

Sir Theodore Morison, lecturing before the Indian Guild of Science and Technology at the King's College answered the various objections to the system of sending Indian students abroad for Technological studies; but he said that none should come who had not read up to the B. A. or B. Sc. standard. He had great faith in attacking the problem of Indian economic development through the educated classes. They were alert and appreciative of the new ideas and success among them was reproductive in the ideas initiating movements and thought. Admitting that difficulties existed in finding suitable avenues for the technically trained Indians, he said that they had a right to ask their countrymen for more practical sympathy and a new and enlighted form of Swadeshi. Indians should invest more largely in well-manged concerns, and when they held a majority or a considerable portion of the shares, they should urge the Board to take on Indians as juniors in posts of control and thus promote Indian development and open up avenues of employment for their sons.

* * *

Training of Primary School teachers

A scheme for training teachers to give nature study lessons in primary schools, has been sanctioned by the Government of India. Dr. Gupta of the Training College at Dacca has been appointed to take charge of the work as a temporary measure.

* * *

B. Sc. in Bombay University

Sanction has been accorded to a scheme of studies for the new degree of Bachelor of Science, recently instituted by the Bombay University.

* * *

Honouring a Great Bengali Dramatist

Two silver medals are offered for public competition for the two best Bengali essays on "The Dramatic Genius of the late Girish Chandra Ghose." Rai Baikunthanath Bose Bahadur has been appointed examiner. Essays should reach the Secretary to the Chaitanya Library, Beadon Street, Calcutta, by the 30th June next.



CALCUTTA UNIVERSITY

Member of Syndicate

Mr. G. Findlay Shirras, on special duty with the Finance Department, Government of India, is appointed to act as a member of the Syndicate of Calcutta University during the absence on leave of Dr. E. Denison Ross.

A Research Scholarship

In continuation of the notification dated the 23rd March 1912, under which two Research scholarships were awarded to two qualified graduates, it is further notified that a third Research scholarship of Rs. 100 per mensem is granted to the undermentioned graduate for one year with effect from the date on which the scholar reports himself to the officer under whom he will carry on his work :—

Name.	Subject in which Research work will be carried on.	Place of work.
Kedarnath Ghosh	Chemistry, with special reference to the subject of dyestuffs and dyes related to them with the ultimate object of preparing new dyes of technical importance.	Laboratory of the Dacca College.

A scholarship for the B. T. Examination for Muhammadans

The Central Standing Committee of the All-India M. A. O. Educational Conference have offered to grant two scholarships of Rs. 20 per mensem each to Muhammadan graduates of Eastern Bengal, not already in Government service, who will join the Training College, Dacca, in July next. Intending candidates should state in their applications whether they are willing to enter into an agreement with the Government of Bengal that they will serve in the Education Department of Bengal for at least two years after the completion of the Training course, if posts carrying a value of not less than Rs. 50 per mensem be offered to them. The scholarships will form an addition to the ordinary training stipend of Rs. 20 per mensem each, which will be awarded to a graduate on his admission into the Training College, Dacca. The scholarships will take effect from the 1st July 1912.

Applications should be submitted to the Dacca office through the Principal, Training College, Dacca.

Gold Medals for Lady Graduate

The following rules for the award of the "Mokshada Sundari Gold Medal" and the "Nalini Sundari Gold Medal," which have been adopted by the Hon'ble the Vice-Chancellor and Syndicate, are published for general information :—

1. Out of the interest of the sum of Rs. 5,000 placed at the disposal of the University by Babu Onauth Nauth Dey, two Gold Medals, to be called the "Mokshada Sundari Gold Medal" and the "Nalini Sundari Gold Medal," respectively, shall be annually awarded by the University. The Medals shall be presented to the recipients at the Annual Convocation of the Senate.

2. The "Mokshada Sundari Medal" shall be awarded for the best essay written in Bengali by a Lady Graduate of this University on a historical or biographical subject to be prescribed by the Syndicate on the recommendation of the Board of Studies in Sanskritic Languages, at least one year in advance of the date when the medal is to be awarded.

3. The "Nalini Sundari Medal" shall be awarded for the best poem in Bengali by a Lady Graduate of this University on a subject to be prescribed by the Syndicate on the recommendation of the Board of Studies in Sanskritic Languages, at least one year in advance of the date when the medal is to be awarded.

4. Not later than the month of April of the year preceding the year in which the above-named medals are to be awarded, the Board of Studies in Sanskritic Languages shall select and recommend to the Syndicate a historical or biographical subject for the Essays to be submitted in competition for the "Mokshada Sundari Medal" and also a subject for poems to be submitted in competition for the "Nalini Sundari Medal." The subjects so selected, when approved by the Syndicate, shall be notified in the *Gazette*.

5. Every candidate for each of the two aforesaid Medals shall be required to submit not later than the 30th November in any year, an essay or poem, as the case may be, on the subject selected for the Medal for that year to the Registrar under a distinguishing motto. The name of the candidate must also be forwarded at the same time in a sealed envelope with the motto outside.

6. Honorary Examiners shall be appointed by the Syndicate to adjudicate upon the merits of the essays and the poems submitted by the candidates. In adjudging the essays submitted, preference shall be given to the one which indicates research or investigation by the author. The essay and the poems of the two successful candidates shall be published by the University.

7. The names of the Medallists shall be published in the *Gazette* as well as in the University Calendar.

8. If in any year no essay or poem is submitted, or the essays or poems sent in are adjudged by the Examiners to be not worthy of a medal, a second medal or a medal in a second subject shall be awarded in a subsequent year as the Syndicate may direct.

9. Notwithstanding anything to the contrary in rule 3. the subjects for the aforesaid medals for 1912 and 1913 shall be determined and announced as early as practicable.

In pursuance of rule 9 of the above Rules the following subjects have been named by the Hon'ble the Vice-Chancellor and Syndicate for the "Mokshada Sundari" and the "Nalini Sundari" Gold Medal for 1912 and 1913, respectively :—

Mokshada Sundari Gold Medal,

Subject for 1912	Life of Chaitanya.
Subject for 1913	History of Gour.

Nalini Sundari Gold Medal.

Subject for 1912 ...	Bharate Samratagaman (The Imperial Visit to India).
Subject for 1913 ...	Bharat Ramani (Indian Woman).

Essays in competition for abovenamed medals for 1912 must reach the Registrar, Calcutta University, not later than the 30th November, 1912.

Onath Nath Deb Prize

The following rules for the award of the "Onath Nath Deb Prize" for the promotion of research in Law, which have been adopted by the Hon'ble the Vice-Chancellor and Syndicate of the Calcutta University, are published for general information :—

1. An annual prize, consisting of a gold medal worth Rs. 250, and Rs. 750 in cash, to be called "Onath Nath Dev Research Prize," shall be awarded by the University for the promotion of research in Law. The medal shall be presented to the recipient at the Annual Convocation.

2. The competition for the prize shall be open to all persons who have at any time been admitted to a degree in the University of Calcutta.

3. A subject for research in any branch of Jurisprudence or Law shall be annually selected by the Faculty of Law in the first week of December at least two years in advance of the date when the prize is to be awarded. The subject so selected, when approved by the Syndicate, shall be notified in the *Gazette* for general information.

4. Each candidate for the prize shall be required to submit, not later than the 30th November in any year, a thesis or record of original work in the subject selected for the the prize of that year and to send three typewritten or printed copies of his thesis or record of work to the Registrar under a distinguishing motto. The name of the candidate must also be forwarded at the same time in a sealed envelope with the motto outside.

5. Every candidate shall further be required to indicate generally in a preface to his thesis, and specially notes, the sources from which his information is taken, the extent to which he availed himself of the work of others and the portions of the thesis which

he claims as original. He shall also be required to state whether his research has been conducted independently under advice, or in collaboration with others and in what respects his investigations appear to him to tend to the advancement of knowledge.

6. A Board of Honorary Examiners, consisting of three experts, shall be appointed by the Syndicate, on the recommendation of the Faculty of Law, to adjudicate upon the merits of the theses or records of original work submitted by the candidates. The award of the Board of Examiners shall be subject to the eventual confirmation of the Senate and the thesis of the successful candidate shall be published by the University.

7. The name of prizeman and the subject of his thesis shall be published in the *Gazette* and shall also be printed in the University Calendar.

8. If in any year no thesis is received or the theses submitted are pronounced by the Board of Examiners not to be of sufficient merit to deserve the prize, a second prize or a prize in a second subject shall be awarded in a subsequent year as the Syndicate may direct.

9. Notwithstanding anything to the contrary in Rule 3, the subjects for 1912 and 1913 shall be determined and announced as early as practicable.

In pursuance of the provision made in Rule 9 of the above rules, the following subjects have been prescribed by the Syndicate for the theses to be submitted for the "Onath Nath Deb Prize" for 1912 and 1913, respectively :—

Subject for 1912.

"The origin and growth of the right of occupancy in agricultural land and the incidents thereof."

Subject for 1913.

"The legal aspect of strikes and the course, efficacy and justification to prevent them."

Candidates for the "Onath Nauth Deb Prize" for 1912 are required to send their theses to the Registrar, Calcutta University, not later than the 30th November 1912.

MADRAS UNIVERSITY

B. E. Exam. Result

The following is the list of candidates who passed the B. E. DEGREE EXAMINATION held in April 1912 :—

B. E. (CIVIL BRANCH). Parthasarathi, K. 2. Gopalan, M. 3 David, Devavaram B. 4. Philip, George 5 Swaminathan, Vengangudi S.

B. E. (MECHANICAL BRANCH). Ramaswami Aiyar, B. S.

F. E. Exam. 1912 Result

The following is the list of candidates who passed the FIRST EXAMINATION IN ENGINEERING held in April 1912 :—

1. Madhavachari, R. 2. Krishna Rau, Bigamudre, 3. Ittiyera, P. Kuriyan, 4. Srinivasan, T. R. 5. Kesava Rau, Nelamangala 6. Lakshminarasimhaiya, Narasipur 7. Venkatakrishnan. L. 8. Narayana Venkatesha Bapat .. Thomas, Kallarakal C. 10. Ratnaswami, Samuel W. 11. Venkatasubbachar, Kunigal R. 12. Sundaram, Ramaswami 13. Singarachariyar, M, Gomatam 14. Rangaswami, K: 15. Ramaswami Vedatur, Sundararaman, C. and Tippaiya, Ramanathpur.

MEDICAL EXAMINATIONS, 1912.

The following is the list of successful candidates in the undermentioned MEDICAL EXAMINATIONS held in April 1912 : —

FIRST L.M. & S. EXAMINATION.

FIRST CLASS.

1. Sankara Rau, Pandit 2. Ganapati, Malya, Bantval.

SECOND CLASS.

1. Lakshmipati Somayaji, Sistla 2. Muttaiya, Kulasekharapatnam V. and Visvanatha Sarma, V. 4. Nilakanta Pillai, Kizhakedat R. and Rama Hebbar, Airodi 6. Venkata Rau, Hosbettu 7. Kunjunni Tirupad, Koyikal 8. Krishna Aiyar, Kailiyat R. 9. Sankara Menon, K. C. 10. Pereira, Augustine G. 11. Raghunatha Aiyar, Krishna 12. Govinda Puduval, Aiappisur 13, Madhava Prabhu, Gurpur 14 Natesa Mudali, Viluppuram R. 15. Venkata Rau, Sankara 16. Anantaranga Rau, Coimbatore A Narayanaswami, C. S. 18. Tyagarajan, Koma-

ralingam R. 19. Peter, Mookancheril P. 20. Subrahmanyan, R. 21. Ramanujam, K. 22. Padmanabha Rao, Buntwal 23. Verghese, Chiran T. 24. Pothan, K. Eapen 25. Govindan Vatakkepat 26. John, K. Itti 27. Subraya Baliga, Bantval 28. Ramakrishna, Lalapet 29. Thomas, Nainon V. 30. Vittal Bhatji, Kasargod 31. Dominick, G. M. 32. Parthasarathi Parasurama and Ouseph, Chattupuzhan-karen L, 34. Dayanand Rau, Bola and Kesava Menon, Erechamvittil 36 Gopala Menon, Loladi 37. Thomas, Kallarakal M. 38. Saldanha, Frank J. and Sankara Menon, Marayil 40. Seshagiri Rau, Mysore 41. Somsundaram Aiyar, T. S. 42. Ramanatha, Peruvemba A. 43. Kuriyan, Pandanpurakkal K. 44. Christian, Salvador and Narayan Menon, Cheru kulat 45. Noronha Victor.

SECOND L.M. & S. EXAMINATION.

SECOND CLASS.

1 Rishworth, Harry R. 2 Gopalan, M. 3 Venkata Rau. Eddiya 4 Thungamma. Bolar 5 Narasingham, Vakulabharanam V. 6 Sankaran G, S. 7 Narayanaswami Aiyar, Subrahmanya. & Ponniah, Sengarapillai 9 Gomez, J. Isidore 10 Pancheco, Garnet J. 11 Anna, Cammiade and Parameswara Pillai, P. 13 Abraham, P.A. & Tirumal Rau, Baddapati 15 Narayanaswami, K. 16 Gopalaswami, K. S. 17 Subbaiya, K. R. 18 Adiseshan, R. 19 Thomas, Ramapurattu T. 20 Mathulla, Kandattil M. & Virabhadraswami, Karumuri.

FINAL L.M. & S. EXAMINATION.

SECOND CLASS

1 Madhavachari, Budibal 2 Swaminathan, T. V. 3 Ranga Ramanujaiya, Angulyabharanam. 4 Srinivasulu Nayudu, Alandur 5 Gundo Pant, K. V. and Velayudham, S. 7 Devasikhamani, John 8 Krishna Menon. Ambadi 9 Lakshmikanta Rau, Gujjari 10 Madhava Nayak, Kumble 11 Raghavulu Nayudu, Papineni 12 Mathai, P. Varugis 13 Ganeshsundara Rau, Hattiyangadi. 14 Subba Rau, Palhalli R. 15 Narayana Rau, Chennagiri 16 Narasinga Nayak, Sujir 17 Janardhana Rau, Pangal 18 Krishna Pillai, Narayana 19 Achyuta Menon, Elayedat 20 Ramaswami Aiyar, Chittur R 21 Kuriyan, Valiyavittil 22 Issac, David W. 23 Rama Aiyangar, Gade 24 Morris, Nathaniel 25 Ramakrishnan, S. 26 Somasundaram M. 27 Srinivasaiya, Hunsur 28 Dinadayal Singh, M. G. 29 Santanakrishnan, M. J. 30 Allen, Alberta G. 31 Supiah, A. 32 Ponniah, Karthegesu.

FIRST M B. & C. M. EXAMINATION.

Antony, Panankadu P. Balakrishnan, T. Dinkara Rau, G. R. Divakara Rau, Tekyam Florence do Conceicao, Ida ; Francis, P. V. Kochu krishna Menon Vataka K. ; Krishnaswami, C R. ; Lazarus, Hilda M. : Narayana Menon, Pudiyavittil ; Nataranjan, N. S. ; Rama Aiyar, L. S. ; Ramaswami, Vasishtacheri : Sama Rau, Hondanahalu ; Sankaran, Krishnaswami ; Srinivasachar, Kallukunte ; Subbaiya, R. ; Subbarama Aiyar, R. Subrahmanya Aiyar, Narayana ; Virasingle, Lucia N. ; Vittal Rau, Benegal :

SECOND M.B. & C M. EXAMINATION.

FIRST CLASS

1 John, A. John.

SECOND CLASS.

1 Gnanadikkam, Benjamin, I I. 2 John, Samuel. 3 Gopala Menon, Tekke V. 4 Kuriyappan, Alappat P. 5 Venkataraman, V. H. 6 Kannan Nambiyar, Kiyatle. 7 Koshi Koshi, P. 8 Paul, Gilbert. 9 Narasinga Rau, Mangalore. 10 Krishnaiya Bhutapuri. 11 Kanakasabhapati, Rajaratna. 12 Rajeswara Rau, Pochiraju Ramaswami Aiyar, Mangalam K. 14 Sundararajan, Huggahalli 15. Ganapati Aiyar, S. Krishnaswami. 19 Adam, Louisa Caroline.

THIRD M.B. & C.M. EXAMINATION.

SECOND CLASS.

1 Rajam, Ramaswami. 2 Etirajulu, Bandi 3 Narayana Kamat, Hosdrug 4 Navanitakrishnan, 5 Ramachandra Aiyar, R. 6 Alasingari, Namoori. 7 Ramanna Shetti, Belle 8 Coomaraswami, A. N. 9 Raman Pillai, Koyikal P. 10 Ram Mohan, G. V. 11 Nayinan, Ommen. 12 Zachariah, George. 13 Michael, Daisy K. 14 John, Puttanvittil P. 15 Venkatakrishna Rau, Palakodeti. 16 Janardhana Rau, Koka.

FINAL M. B. & C.M. EXAMINATION,

SECOND CLASS.

1 Candiah, C. 2 Muttulakshmiammal, C. N. 3. Mangesh Rau, Nadkarai. 4 Rangabhaysam

Nayudu, Chandragiri. 5 John, Ambalur E. 6 Dasannachar, Balebail. 7 Chelliah, Sinnathamby. 8 Rama Poduval, Ambadi 9 Krishna Reddi, Cattamanchi 10 Ramaswami, T. S. 11 Ramaswami, Thilaiampalam.

Candidates who appeared for the Final M.B. & C. M. Examination but who qualified for the L. M. & S. DEGREE under Regulation 303.

L.M. & S. EXAMINATION.

Muhammad Abdulallam ; Ramamurti, Kalambur ; Sitarama Aiyangar, Kadabam ; Srinivasamurti, Gorur.

The following candidates for the Final M.B & C. M. Degree Examination have been exempted under Regulation 304 from re-examination in the subjects noted against each : —

Krishnamurti, A ; Narayanaiya, M.A. ; Ramakrishna Rau, Kalmadi ; Rama Menon, Kariotkalattil ; Srinivasamurti, Gorur.

BOMBAY UNIVERSITY

Fellow

His Excellency the Chancellor is pleased to nominate the Hon'ble Mr. Fazulbhoy Currimbhoy Ebrahim to be an ordinary fellow of the University vice Mr. Mirza Ali Mahomed Khan M.A., LL.B. whose office will be vacated from 27th May 1912 under section 4 (2) of the Indian Universities act VIII. of 1904.

PUNJAB UNIVERSITY

Dates for Medical and Engineering Exam.

The written examinations (Medical) were held from Monday the 20th May 1912 to Thursday the 23rd May 1912 (7 to 10 A.M. ; the oral Examinations will be held from 23rd May to 7th June by batches.

The first Examination in Civil Engineering will be held from May 27th to June 6 from 7 A.M.

Diploma Examination of the Govt Training Class

The following candidates have passed the Diploma Examination of the Govt Traing Class for European Teachers at Sanawar held in 1911, (*In order of merit*) :—1. G. Mc. Murray, 2. L Otto, 3. R.Fleming, 4. W. O'callaghan, 5. A. Fernandez, 6. K. Mc. Intosh, 7. W. Buchlay, 8. W. Chill, 9. J. Russel, 10. C. Line.

ALLAHABAD UNIVERSITY

Re-examination of Nagpur Candidates

It is hereby notified that candidates who appeared at the Nagpur centre for the Intermediate examination of the Allahabad University held on the 19th March. 1912, and subsequent days in the following subjects, *viz*, Modern History, Papers I and II and Physiology, are directed to present themselves at Nagpur, without fail, at 7 A.M. on June 17, 1912, for a further examination in the above meutioned subjects.

Rule for Election of fellows by Registered Graduates

In accordance with the provisions of section 20 of the Allahabad University Act, 1889 (XVIII of 1887), the following additions to the University Regulations which have been made by the Senate the local Goverment under section 25, sub-section (I) of the Indian Universities Act, 1904 (VIII of 1904), are notified for general information in the U. P. Government Gazette :—

Chapter XXVII.

(I) ELECTION OF ORDINARY FELLOWS.

A.—Register of Graduates.

1. The Syndicate shall maintain a register, on which any graduate of the Allahabad University who —

(*a*) has taken the degree of Doctor or Master in any Faculty,

(*b*) has graduated in any Faculty not less than ten years before registration shall be entitled to have his name entered and retained in such register subject to the regulations following.

2. Any graduate satisfying the conditions of regulation I, who wishes to have his name entered on the register, shall fill up an application in the prescribed from, obtainable from the Registrar, and shall forward the same to the Registrar along with the initial fee of rupees ten, and either the first annual fee of rupees two or a composition fee of rupees twenty. The Registrar shall thereupon cause his name to be entered on the register provided that his application form and fees have been received by the Registrar on or before the 10th day of February 1913 or not more than one year from the date on which he becomes entitled toregistration under regulation 1. The date on which a graduate

has taken a degree or graduted in any Faculty shall be the date on which he is admitted to the degree.

3. The date of the diploma of his degree shall be the date from which the period of ten years under regulation 2, shall be calculated.

4. Any graduate who is entitled to registration under regulation I, but fails to apply for the same before the expiry of the period specified in regulation 2, shall, in order that his name may be entered on the register pay in addition to the fees prescribed in regulation 2, an additional fee of rupees ten.

5. Every registered graduate who has not compounded for his annual fee, shall pay an annual fee of rupees two not later than the 30th June of each calendar year. Should any such registered graduate fail to pay the annual fee on or before the prescribed date, his name shall be removed from the register, but it may be re-entered thereon in any subsequent year on payment of all arrears of annual fees.

6. Any garduate at any time, while his name is on the register, shall become entitled to the registration of his name on theregister for life by the payment to the Registrar of a composition fee of rupees twenty.

7. Registered graduates sha notify to the Registrar every change of their address.

The present Chapter XXVII should accordingly be renumbered to read Chapter XXVIII.

The Board of studies in medicine recommends that the following Syllabus and Courses of studies in Anatomy, Physiology and Materia Medica be course of study in K. G. Medical College adopted for the Examinations for the 1st M. B. B.S. in 1913 and 1914.

Anatomy.

1. Human Anatomy and Embryology with special reference to their application in Medicine and Surgery.

2. The dissection of the whole body at least once.

Books recommended—

Cunningham; Practical Anatomy.

Cunningham; Text-book of Anatomy.

Physiology.

HISTOLOGY.—The structure of the Cells, Tissues and organs of the humun body.

Preparation of normal tissue either fresh or previously prepared so as to demonstrate their minute structure.

Application of common, histological methods.

Recognition and description of microscopic preparations of any normal tissue.

Chemical and Experimental Physiology.

DIGESTION.—Chemistry of the common food substances.

Secretion and properties of the digestive juices and bile.

Movements of the stomach and intestines.

METABOLISM.—Formation and function of glycogen.

Nitrogen balance in men.

Body temperature and its variations.

Value of various diets.

BLOOD.—Hæmoglobin and its derivatives. Hæmolysis. Precipitians. Coagulation. Enumeration of red and white corpuscles and of hæmoglobin. Application of side-chain nomenclature to certain biological reactions.

Estimation of blood alkalinity.

Fslimation of Hæmolytic power of certain reagents.

CIRCULATION.—Physiologicat anatomy of heart and action of valves.

Capillary circulation. Stasis. Hyperæmia. Inflammation.

Determination of blood pressure. Pulse curve. Cardiac impluse.

Heart sounds. Properties of heart muscle. Action of vagus and sympathetic on heart.

Vasomotor Nerves. Formation of lymph.

RESPIRATION.—Respiratory rhythm and volume. Action of vagus.

Breath sounds.

Estimation of respiratory exchange.

URINE.—Excretion of urine. Detection and estimation of principal, normal, and abnormal constituents.

Estimation of excretory co-efficient.

NUSILE AND NERVE.—Use of batteries and induction coil.

Effect on contraction of load and fatigue.

The Reaction of degeneration.

CEREBRAL NERVOUS SYSTEM.—Reflex action. Tendon phenomena. Reaction time.

Function of the various tracts and immediate results of injury to them. The Babinsky phenomena.

Cerebral localisation.

Nethods of testing the soundness of individual Nerves.

SPECIAL SENSES.—law of specific Irritability of nerves.

Use of laryngscope, ol auriscope and of ophthalmoscope,

Physiological anatomy of tne eye.

Formation of retinal image. Limits of accommodation.

Retinoscopy. The ophthamometer and perimeter

Common optical defects of the eye.

Colour vision.

Students areexpected to show their acquaintance with the methods employed for the demonstration of fundamental physiological process as laid down in the foregoing syllabus, and to carry out such chemical manipulations and experiments as are comprised therein.

Books recommended—

Halliburton's Manual of physiology.

" Essentials of Chemical Physiology.

Schafer's Essentials of Histology.

MATERIA MEDICA AND PHARMACY.

(a) The pharmacological action of drugs and other medicinal agents on the chief functions of the animal body and the chemical transformation undergone in the body by the principal medicinal substances.

(b) A practical study of the chief Indian indigenous drugs and of the preparation of medicines and of the constituents of the more important compound preparations of the British Pharmacopœia.

Books recommended—

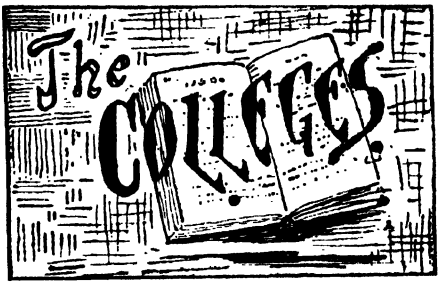
Materia Medica, Pharmacology and Therapeutics,

By Hale White (1909).

British Pharmacopœia.

" " India and Colonial Addendum.

Indian plants and Drugs with their Medical properties and Uses By Nad Karni (1908).



Bangabasi College

The Syndicate of the Calcutta University recommended the Senate that with effect from the commencement of the ensuing session the Bangabasi College be affiliated in English to the F. A. Honours standard.

Doveton College Calcutta

The annual prize distribution of Doveton College was held in the College buildings at 18. Convent Road, Entally. Mr. A. G Bower, presided, and Miss W. G. Wince presented the prizes. The Principal's report showed that the year closed with 131 pupils on the rolls, 99 in the Primary, 20 in the Middle, and 12 in the High School. Of this number 62 were boarders. To accomodate the increase in numbers, the committee of management put in hand the erection of a well-venilated dormitory to the south of the main one. During the year it was decided to work with the Calcutta University. It was found that the Cambridge Local Examinations, which had been adopted in the Institution for the last three years, did not suit its peculiar conditions At the examinations held recently three candidates were presented for the senior, two for the junior, and three for the preliminary. The results, which were published last month, showed one success in the senior, two in the junior, and two in the preliminary.

Madras Medical College Session 1912-13

The autumn session of the Madras Medical College will commence on Tuesday the 2nd July 1912.

Graduates, F. A.'s and candidates who have passed the Intermediate Examination in Arts of the Madras University and those who have passed an examination accept-

ed by the Syndicate of the University as equivalent thereto or one of the examinations which are recognised by the General Medical Council of Great Britain as a sufficient test of preliminary education for the commencement of medical study are eligible for admission into the M.B and M.D. or L.M. and S. classes.

Women candidates who have passed the Matriculation Examination of the Madras University prior to 1910, the late Higher Examination for women or the Higher School Examination or who have obtained the best Secondary school certificate with optionals other than Shorthand and Typewriting are eligible for admission to the Apothecary Department This department is closed to male private candidates.

Applications from intending candidates must be made to the Principal, on printed forms which can be had from the Senior Assistant, Medical College, on sending a half anna postage stamp. The applications with the following documents (in original) attached thereto will be received by the Principal up to 15th June next :—

(1) Qualification certificate.
(2) Conduct certificate
(3) Transfer (or leaving) certificate.
(4) Vaccination certificate.

Permission from the Superior officer (if in Public service).

Applications defective in any way, or which are received after the 15th June, will be rejected. No name will be registered *pending production* of any of the required certificates.

The prescribed fee should be paid within a week after notice of selection has been received, into the nearest Government Treasury to the credit of "*Medical College Fees*" and the treasury receipt sent immediately to this office. The Principal will in no case receive the fees.

Application forms and papers received from candidates who are not selected will be returned to them by the Principal.

Meerut College

The Hon. Dr. Sunder Lal, the Vice Chancellor of the University of Allahabad, was the guest of Lala Madhusudan Dyal and Lala Mahabir Prasad on the 24th April last. He visited the Meerut College Law Classes with the Hon. Sir George Knox. It is hoped that the Hon. gentlemen have been convinced of the usefulness of having the law classes in the Meerut College and recommend the same to the university.

The prize distribution of the MacDonnell High School came off on 29th April.

MacDonnell High School Jhandi

Preparations were made on a large scale. The road leading to the school was covered with mooroom and school Jhandis were posted on both sides of the road right up to the school steps. Union Jacks were waving of the main gates, which were artistically decorated with leaves and flowers—natural and artificial. The Jhandis and flags were also visible on the school roofs all round.

The chair was occupied by Mr H. C. Ferrard, I.C.S., C.I.E., commissioner of the place, who took a delight in distributing the prizes and encouraging the boys.

The engraving of the medals and the shield was done in its entirety by the drawing master of the school, Mr. Modak.

The gathering was large and both Europeans and Indians were present.

The ceremony was brought to a close by the national anthem sung by the school chair.

Affiliation

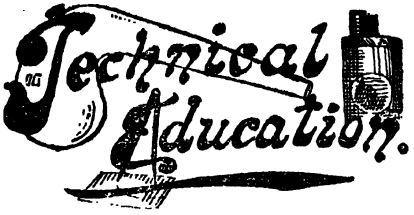
With the special permission of the Chairman, the Registrar placed before the Meeting of the Senate the following recommendation of the Syndicate made at its Meeting held on the 7th March, 1912—(*vide* resolution Nos. 71, 72 and 73) :—

(i) that the Christian College, Allahabad, be affiliated up to the M. A. standard in *Economics*, with effect from July 1st, 1912 ;

(ii) that the Central Hindu College, Benares, be affiliated up to the M. A. standard in *Philosophy*, with effect from July 1st, 1912 ;

(iii) that the Muir Central College, Allahabad, be affiliated up to the M. A. standard in *Economics*, with effect from July 16th, 1912.

It was *resolved* that, in the opinion of the Senate, the Colleges referred to above, be recommended for affiliation in accordance with the recommendations of the Syndicate.



Elliot Banamali Technical School, Pubna.

The following is the result of the Survey Final Examination held in March 1912 :—
(In order of merit).

1ST DIVISION.

Mana Mohan Chakravarty, Pravat Chandra Dutt Gupta, Mohendra Nath Chanda and Hriday Ranjan Saha.

2ND DIVISION.

Lalit Mohan Bagchi, Nishi Kanta Ganguly, Jitendra Prasad Guha, Syama Charan Bhattacharjee, Dwijendra Chandra Chakravarty and Dinesh Chandra Sen.

3RD DIVISION.

Jitendra Nath Chaki, Tarini Charan Pal, Mukunda Lal Ghosh, Surendra Nath Kar, Aswini Kumar Sarkar, Binod Lal Ray, Jasimuddin Sarker, Khitiswar Dass, Anyada Prasad Sanyal, Ram Krishna Das and Hari Narayan Khamaru.

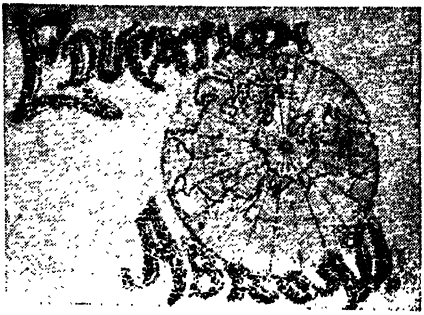
OTHER EDUCATIONAL ADVANCES.

The Muhammadan University

At a recent meeting of the Muhammadan University Committee held at Aligarh it was announced that H. H. the Nizam of Hyderabad, in addition to his donation of Rs. 5,00,000, had made an annual grant of Rs. 12,000, to the Mahomedan University Fund. H. H. the Nawab of Janjira has made an annual grant of Rs. 1,200. These grants raise the total amount promised to Rs. 45,26,428. Of this sum Rs. 24,98,402 have been actually collected, making with the capitalised value of the grants mentioned above, and the interest accrued, a total of Rs. 29,00,125. The expenses of the Committee up to the 28th April amounted to Rs. 34,478.

The Hindu University

The Maharaja of Udaipur has subscribed one lakh and a half towards the funds of the Hindu University.



Site of the London University

The controversy as to the site of the new University for London grows somewhat acute. Among all the proposals that have been made, the one that appeals to us most is that the Foundling Hospital should be moved into the country and the University built on the site thus left vacant. There can be only one opinion as to the advantage of removing the foundlings into the country, just as Christ's Hospital has been moved in recent years. The foundlings are no longer slipped into an enlarged letter box at the hospital door : the need for the building in the midst of population has ceased to exist. The children are admitted after inquiry and with formalities. The site would be self-contained and not intersected by streets, as is the Bloomsbury site. We hope the proposal will be considered by those in authority, and that the Hospital will at least have the option of accepting the plan.

Medical Treatment

The Education Estimates of this year provide the sum of £60,000 for the medical treatment of school children in England and Wales. The Board of Education have now issued regulations under which this grant will be administered. The sum is not large, and can only be meant as an experiment. If all goes well, a much larger amount will be needed in future years. If the Board are satisfied that the medical inspection in an area is suitable, they will be prepared to consider the making of grants towards the cost of general medical treatment, especially, we may assume, in cases where school clinics have been established. The second object of the grant is to

help in the treatment of tuberculosis or other ailments for which the open-air life is recommended. The two most important steps that Authorities have taken recently in the direction of medical treatment are the establishment of open-air schools and the setting up of clinics. We may take it that these two movements will receive special support.

Cost of Education

The growing cost of education and the increasing disproportion between the amount of Government grants and rates are illustrated in the accounts of the London County Council that have just been published. The total amount spent on elementary education during the year was rather more than £4,500,000. Of this sum more than £3,000,000 were raised by the ratepayers, leaving less than £1,500,000 to come from the pockets of the tax-payers. For higher education the total amount spent fell short of £1,000,000: just about half of this came from Exchequer contribution and Board of Education grants; the remainder was raised from the rates. In reality it may not greatly matter whether we pay in the form of taxes or of rates; but there seems to be a strong feeling that the taxes should bear a more even portion of the cost of elementary education.

What France is studying

The total University population of France (certain medical schools excluded) is 39,422. Nearly one-half of the students are enrolled in the Faculty of Law. But we print the exact figures for all the Faculties: Law, 17,027; Medicine, 8,265; the Sciences, 6,463; Letters, 6,309; Pharmacy (higher schools), 1,358. Putting Law aside, we observe how modern France is being drawn away from literature to the fields of scientific inquiry.

Foreign Students at Paris.

Nothing can vulgarize Paris, and if any one can render learning winsome it is a French professor. The University of Paris outdoes all the academies of the world in attracting studious youth from abroad. The last Report of the Conseil de l' Universite bears striking testimony to this fact. Of (in round numbers) 18,000 students no less than 3,500, or nearly one-fifth, are of other than French nationality. "C'est la," says the *Journal des Debats*, "c'est la un fait considerable, qui demontre a quel point le rayonnement de l'esprit francais est puissant dans l'univers civilise." For what do these foreigners come? Many for general culture. That is why the Faculty of Letters has in its clientele 1,300 of them, more than one-half being women students. The Faculty of Law embraces 950 foreigners. Medicine has drawn from abroad 329 women and 476 men; the Faculty of the Sciences, about 300 men and 200 women. Among the nations represented it is the Russian that preponderates; there are, in all, 1,600 Russians at the University of Paris. If to the foreign contingent at Paris be added the 2,000 foreigners attending provincial Universities, it will be seen that France is feeding with culture and knowledge 5,500 students who are not her own children.

Women Students.

In connection with the French Universities we give a few figures relating to a subject in which we and many of our readers are much interested—the pursuit of higher studies by women. Statistics just published show an increase, if only a slight one, in the number of women students. Last year there were in the University of Paris 2,121 women out of 17,238 students registered; this year there were 2,190 women out of 17,321. We look to see how the women are distributed among the Faculties. In that of Law they number 99; in Medicine, 570; in the Sciences, 248; in Letters, 1,241; whilst in the Higher School of Pharmacy there are 32. The other French Universities have the same result of progress to report. German women are studying (Protestant) theology, to qualify themselves for teaching, for the cure of souls (*Seelsorge*), and for the conduct of institutions in which the religious instruction is a vital part of the whole. Last summer half-year there were 29 women students (12 duly matriculated) of theology in the Universities of Prussia. We have not heard of any French girls who are making the pulpit their goal.

OXFORD UNIVERSITY.

St. John's College

Sir Willam Mitchell Ramsay, M.A., Hon. D.C.L., formerly Scholar of the College, has been elected to an Honorary Fellowship

Roden Sanskrit Scholarship 1912

An Examination for the SANSKRIT SCHOLARSHIP on the foundation of Colonel Boden will take place in the Indian Institute, commencing on Monday, May 20, at 10 A. M.

Candidates must be matriculated members of the *University of Oxford* who have not, on the day of election, exceeded their twenty-fifth year. They must produce satisfactory proof of their age, and a written permission to offer themselves as candidates, signed by the Head or Vicegerent of their respective Colleges or Halls or the Censor of Non-Collegiate Students, to the Boden Professor of Sanskrit at the Indian Institute, between Noon and 1 P. M. on Saturday, May 18.

No person whose vernacular language is any Indian language is eligible as a candidate.

The Registrar will receive the names of Candidates by letter addressed to him at the University Registry, Old Clarendon Building, not later than 4 P. M. on Saturday, May 11, 1912.

James Mew Arabic Scholarship

An Examination for the JAMES MEW ARABIC SCHOLARSHIP will be held in the course of Trinity Term.

The Scholarship is of the present value of about £110, and is tenable for one year from the date of election.

Candidates must have their names on the books of some College or Hall or the Delegacy of Non-Collegiate Students. They must also have passed all the Examinations necessary for the Degree of Bachelor of Arts, and not have exceeded the twenty-sixth year of their age.

No person whose vernacular language is Arabic is eligible as a candidate.

During the tenure of his Scholarship the Scholar is required to pursue some course of study or research approved by the Laudian Professor of Arabic, and for this purpose to reside within the University for eight weeks in each of the three University Terms (Easter and Trinity Terms being reckoned as one), unless special permission from the Board of Management is given for study elsewhere.

John Locke Scholarship in Mental Philosophy, 1912

An Examination for a Scholarship on this foundation, of the value of £100, tenable for one year from election, will be held at the Examination Schools on Tuesday, November 5, and two following days, commencing at 9-30 A.M.

Candidates must send in their names to the Registrar of the University, Old Clarendon Building, on or before Saturday, October 19. They may at the same time submit dissertations on any of the subjects included in the Examination. The Examiners will on no account accept any name or dissertation sent in after October 19.

ROMANCE OF INSECT LIFE

By Prof. S. B. HUDLIKAR, M. A.

I must remark at the outset that the present article does not presume to set forth the results of any research work. It is simply written for the general information of the ordinary reader who takes some interest in the observation and study of nature, and it will, therefore, be my aim to make the treatment of the subject simple and popular.

The other day I was taking an idle stroll on the hills behind our College with a young friend of mine. Out of idle curiosity I asked him whether he knew anything of the hills which have become the haunts of many of us in the evenings.

"Yes of course" was his reply. "Don't you know" he asked me in return, "that our great Maruti, while carrying the Dronagiri, dropped some blocks of stones ? You now see that they stand as so many hills." I could not help laughing at such a remark although this was not my first time to hear the like of it. We went down the hills, after a while, and there stood a big mound of compact earth before us. "What is this ?" I asked him—"home of serpents" was his quick reply.

"Ignorance is bliss" I murmured rather than call it nonsense. It becomes an unpleasant task to say in so many words that many of us like my friend have such a pro-

found ignorance about such simple things of daily observation, and their ideas about them are fantastic bordering on absurdity ! Want of proper observation or still worse, our inherent cynicism deals a death blow to all our progress in natural history.

I believe most of my readers are better observers. They have seen so many caterpillars, moths, butter-flies, ants, black and red, and finally—white ants which are technically known as termites. All these come under the class "Insecta" or Insects in our common language. They eat, take in air and give it out, live a life, multiply and, in short, exhibit all sorts of activities in life as well as the most evolved being such as man does. Some will be amazed when I say that many of these lowly organised beings live as good a social life as ourselves !

The insect architecture is worth a study by itself. The nests of different kinds of ants are the most simple in their character combined with all sorts of conveniences required for a social kingdom. There are masons, carpenters, common workers—soldiers, gardeners, and ayahs among the ants ; and there are their Imperial Majesties the King and the Queen to rule the destinies of all within the nest. Let us take a concrete instance to study the social life of the ant-world in general. If you watch in fields some big mounds sometimes growing to a height of 6 or 8 feet or more, you will observe that such a big home is erected by the busy workers, the masons I may call them, amongst the white ants. Now if you try to open one of these termite-hills you will see that it actually tries your strength as it is built with earth mixed with the secretion of the ants which acts as a very strong cementing material. Well, as you open it, you will see red-headed, furious ants rushing out towards you. These are the soldiers of the camps and they are armed with sharp mandibles. Their function is more or less defensive or as many must have experienced, their function is very offensive at times inasmuch as they destroy books, clothes and valuable wooden furniture.

Now let us dig a little further. We shall see some very funny round objects which are so very soft to touch. These are the fungus gardens built by the Termite Malis ! These industrious Malis are very clever little fellows. They are not provided with sharp teeth like the soldiers but they seem to have been gifted with industrial capacities. They build these gardens out of some chewed leaves or decaying vegetable matter and grow the fungi in rows—which forms the common food material of all the members of the colony from the king down to the common coolies. The convenience of building the fungus gardens within the hill is to avoid the labour of wandering about in search of food like the black and the red ants, in the early morning. They have a very tender body forming at times a delicious dish of many birds, and as such requires greater protection from their enemies.

As we go on digging we see that some of these ants carry the young unhatched eggs in their mouths. These are the ayahs taking the young ones of the royal couple outside for a walk and fresh air. Well, now the question may be asked whence do so many eggs come ? Let us have patience and let us dig further until we come upon a cell which contains the royal couple. This cell is known as the royal cell or better as the queen-cell and it is invariably the case that the king is always found by the side of his queen. The queen is a very big lady hardly capable of movement, one way or the other !

Her body, I mean the abdomen, is comparatively too big for her body being about as big as the middle finger of a stout fellow—and hence she is quite incapable of any movement. She is always guarded and looked after by the soldiers and the workers who are always ready by her side to obey her mute commands. The king is comparatively smaller and such a very wonderful fellow !—so very notorious for his unchivalrous conduct ? In times of danger he deserts his beloved queen and tries to play the poltroon. But the scientist being rather a chivalrous man always takes care to see that he is safely lodged with his consort in the same bottle filled with alcohol ! I may incidentally remark here that among some kinds of bees and other insects, the king is quite an idle member of the family and the duty of providing for the future brood devolves upon the queen and this fact reminds me of so many families around us where the drone has nothing to do—but to eat what his female companion earns for him and the children.

If we watch all the ants in the colony, we shall observe that some seem to be guests, admitted in the home of the termites. They are of course the paying guests as they have

to do something for their hosts. Father Eric Wasmann, the well-known German specialist of termites, has observed that the guests are carried on the body and otherwise fondled by their hosts —because the benefit is mutual. the guests can secrete some juicy material which is so very agreeabe to the white ant and it may be said,serves as anelixir of life to them and in return for this handsome service they are allowed freely to partake of their food and protection.The guests are, in fact,actually taken care of like so many cows in the social home of the termites. Although man boasts himself as the most highly evolved being, strict obedience to the laws of the land and the sense of discipline are better seen in the social life of such tiny little creatures.

THE EDUCATIONIST IN SOUTHERN INDIA.—I.

By Prof. P. Seshadri M. A., Pachaiyappa's College, Madras.

The Madras University.

It is with some reluctance that we venture to examine the subject of the position occupied by the educationist in Southern India, as there is the danger of the task being understood as an attempt to praise our own calling in life, or bring down the importance assigned to the other learned professions in this country. The enquiry must however be held to be above all such suspicion when the preliminary assurance is given that we propose to confine ourselves to the field of education and ask for a proper recognition of the part that must be played by those engaged in the work of teaching. It is hardly necessary to add that the educationist himself will not be exculpated from any blame that may fall to his lot as being responsible for his present condition : nor will there be the least desire to cast aspersions on the worthy gentlemen who might be engaged in other professions affording similar opportunities for serving the country or humanity at large.

The status assigned to the educationists serving in Government institutions does not very much enter into the consideration of this question, as from the conditions of their employment they are precluded from the possibility of extending their activities beyond the immediate sphere of their work. But it will be pointed out that even in purely educational matters they have often shared the neglect and positive indifference that have been shown to their non-official brethren and they have sufficient ground for asking for adequate recognition at least in the future. The professorial staff of the large number of colleges under Missionary control and management have also a justification in harbouring similar discontent.

It will not be maintained for a moment that the educationist should loom large in the public life of the country—that would be nothing short of asking for a privilege which has not been granted in any country, in any age of history, and which is probably not even consistent with the highest ideals of the vocation of the educationist. But it becomes a very legitimate grievance indeed when his position is not recognised even in the world of education and he is quietly ignored in the administration of educational matters. It is also melancholy to observe that the Indian public has lent positive encouragement to this state of affairs, which can be observed in the University, in Government and educational life generally.

A few points in connection with the personnel and constitution of the University of Madras will serve to elucidate our position. It will be conceded readily that the head of a University, who fulfils the mere ornamental purpose of lending dignity to the body,must naturally be the highest personage in the land and the Governor of the Presidency is appropriately enough the *ex-officio* Chancellor of the University. A ceremony like the annual Convocation for conferring degrees on the graduates of the University receives its imposing majesty to some extent from the presence of His Excellency the Governor accompanied by his gilded retinue and his signature is indeed a valued part of the Diploma placed in the hands of the youths leaving the portals of the University. But it has always been a puzzle to us why the Vice-Chancellor, who is supposed to fulfil the duties of an executive head—presiding over a body controlling educational matters—why he should generally be selected

from the Bench. We hasten to admit we have nothing but praise for the energy and enthusiasm with which the distinguished Judge who adorns that office at present, has discharged his functions all these years ; nor should we be disposed to question in the least, the high intellectual distinctions that entitle him to hold the office. But our grievance is against the almost uniform practice of nominating a member of the Bench to this educational office. It will be interesting to know the reasons which have determined this peculiar practice in the past, whether the experience of having worked for years among ryots in the mofussil before elevation to the Bench, or entering into the anatomy of some of the most disagreeable aspects of human nature as a judicial officer or tolerating with wonderful patience the conflicting mass of evidence and argument presented by a bewildering array of lawyers Court—which of these circumstances it is that has weighed most in the practical establishment of this principle.

There would however seem to be two serious grounds which can be urged in defence of this line of policy. It might be argued in the first instance, that this scheme contributes to the enhancement of the prestige of the Syndicate, that the respect and fear in which it is held receives a strong impulse from the presence of a Judge of His Majesty's High Court of Judicature on its list. But it is necessary to remember that the Chancellor subserves the ceremonial purpose, and educationists are probably not the kind of persons to be dazzled by official rank or splendour. An acceptance of this position also implies a statement of the principle that the most distinguished educationist of the University cannot aspire to official prestige even within the precincts of academical life. Why then this masquerade of respect for scholarship and the shrill encomiums on the sacredness of knowledge on occasions of ceremony ? Looking up the Calendars of British and American Universities, one is agreeably surprised to find the Vice-Chancellor is always the head of a College enjoying the confidence of the colleagues of his own institution as well as those of all others consituting the University.

The task of keeping the balance between individual colleges is probably a much more serious problem here than in the Universities of Britain and America. There are several interests to be represented and there is always the danger of one factor—the Government, Missionary or the Indian dominating the entire University, but it will not be denied there is a higher tribunal that can check such undesirable tendencies by altering absolutely the constitution of the body. More probably de pends on the proportion of the various elements in the Syndicate than on the personality of the Vice-Chancellor. Again, the technical knowledge which the head of a colloge can be expected to bring to bear upon the discharge of his duties must be no small consideration in a decision of this question.

The circumstances are not in the least more encouraging when we pass on to a consideration of the Syndicate, though it must be granted that the European members have been mostly educationist and at least the European voters in the Senate have thus acted in the most praiseworthy manner, in refusing to send persons other than educationists,—at least whenever a European was concerned. The few seats held by Indians have mostly been assigned by such a distinguished elective body as the Senate, to persons who cannot by any stretch of the imagination be looked upon as having any special qualifications for the work of educational administration, except that they were at one time or other educated within the four walls of a college affiliated to the University. It ought not to be presumed from what has been said that the non-educationist Indian members are deemed to have failed in the discharge of their duty. But we have no hesitation in asserting that at the moment of their election there were educationists of no ordinary attainments and character, who must have been looked upon as eminently fitted for such offices. It is a reflection on the Indian element in the Senate, and it is idle to obscure it, that it should have generally turned its pitiable appeal for help to lawyers enjoying a lucrative practice at the Bar, or to Judges on the Bench. Whatever the shortcomings of the European Fellows on the Senate, it must be said to the

credit of their high principles and self-respect as educationists, they have never been guilty of the weakness of regarding official position or an extensive practice at the Bar as sufficient qualifications—at least among European candidates for entering a University Syndicate. It seems to be almost clear at least as far as the Indian element is concerned the tendency is to consider the most eminent educationists too insignificant to be thought of for any such high honour.* It is only necessary to assert once more that a knowledge of educational problems and a mastery of the technical details relating to University administration are not necessarily acquired in the legal profession and the meaningless practice must stop of looking to the most well-known figure in the Law Courts whenever the Indian Fellows are confident of sending their nominee for a seat on the Syndicate.

It is interesting to recall to our minds in this connection a phenomenon which once impressed upon us profoundly the crying need there was for an immediate reversal of such a policy. We should be loathe to draw into this controversy the names of departed souls, but we are forced to make the confession that it was a constant source of amusement and mystery to us to see a place in the Syndicate filled for a long period by an Indian holding rather an out-of-the-way office, an Administrator-General in the High Court, whose qualifications to hold that exalted place in the educational world we have not been able to unravel all these years. The only possible explanation was the existence of a strange and eternally binding tie between the Administrator-Generalship in the High court and a place on the Syndicate of the Madras University, but even that theory, alas! does not seem to be tenable any longer, as his official successor has not been thought fit to be elected to that august body. And the only grounds that have disqualified this gentleman are probably his high academical distinctions and his holding a professorship of law in additlon to his official duties. In bringing out these facts it is not even our remotest desire to suggest that on purely personal grounds there was anything to object to in that officiel dignitary who was selected for that special privilege. He was an estimable gentleman of great social popularity and it is even said he was often found useful as a member of the Syndicate, but we would not certainly regard the possession of an amiable disposition and sweetness of temper adequate qualifications for the place, nor would we rely on chance and the course of future events to rectify the results of our want of discretion and even the violation of sane principles in matters of election.

It is easy enough to find an explanation for this constant phenomenon of the Indian members of the Syndicate being non-educationists. The Indian has always had a weakness to bow down before mere official rank or material wealth and he invests persons in exalted places with talents in every direction. It is ulso generally known that leadership in law has always meant in this country supremacy in public life and at least a reputation for knowledge and experience in numberless departments of activity. The person stands out as the most astounding example of the versatility of human genius. From the directorship of a bank or a factory to the offering of expert opinion on all subjects under the sun, he is fit for any capacity. The elucidation of legal subtleties is only an insignificant part of his acomplishment and work though it is mainly responsible for his magnificent income. A seat on the University Syndicate is therefore almost a necessary consequence of his position and he is sure of it when his hair is beginning to turn grey, apprentices are flocking to him and his income is rising to some thousands a month.

There is also some encouragement offered to this course of events by the European Fellows in the Senate who when forced to vote for an Indian, would rather allow one unconnected with education to get in than to tolerate the possibility of an Indian Colleague or subordinate at college entering the holy sanctuary. If it be a European professor, question of monthly income and material status

* This article was in print before the announcement of the recent election to the Syndicate—P.S.

does not matter, but when an Indian is escaping through the fingers, let there be some saving of the voter's dignity by his being able to realise that the candidate is a Judge, or a lawyer whoso income exceeds his own several times or a person with at least the respectable prefix of 'Honourable' to his name—this would seem to sum up the position in the general case, though there are evidently some who would refuse to be parties of such a game.

We have in this connection to deal with two other interesting aspects relating to this question. It is necessary to examine once for all the extent to which the non-educationist members of the Syndicate have been successful in the discharge of their duties. Keeping up the routine of official work should hardly be regarded as a matter deserving special congratulation and it is idle to talk of success in such conditions except on occasions of convention and ceremony. Their anomalous position as busy amateurs in a compony of technical experts has always operated as a serious disadvantage, and it is well-known that it has often led to a natural hestitation on their part to express themselves strongly or even with any confidence on any educational matter, in the deliberations of that body. That they have always been actuated by an honest zeal to justify their position is easily granted. And it is also frankly recognised that whenever the temptation of an engagement in the mofussil did dot interfere with their work, they were faithfully prepared to sit out the meetings of the Syndicate. But it is only maintained that they could not have commanded the professional authority that is undoubtedly necessary for challenging the opinions of the other members on any serious occassion. Far be it from us to pry into the secrects of the delibrations of the Syndicate but we have heard it said on very good authority that the dignity of that chamber was often marred by the humiliation of members having to submit themselves to light ridicule if there was not a sufficiently cautious recognition of the limits of amateurish criticism or even suggestion.

If illustration were needed for convincing proof of this contention we have only to mention a personal instance. There was once a pathetic confession to that effect on the part of one of our distinguished public men who enjoyed during his lifetime a deserved reputatian for his uncompromising courage in fighting for his convictions. He expressed on one occassion, the sense of helplessness under which he was labouring when matters came up for consideration before the Syndicate. He was not allowed, he said with a touching sincerity—let us also note the graver aspect—he was not allowed to be of any aspect in matters relating to the judgemeet of the qualifications of individuals in Sanskrit or in the Indian vernaculars ! 'Our existence does not count in other matters,' he remarked with a pleasant smile, referring to the non-educationists and that was on the occasion when he felt throughly convinced of the unfairness of the Syndicate towards the claims of an educationist. He seemed to reconcile himself to the position not with any stoic indifference, not certainly with any sense of fear, but from an unpleasant realisation of at least the apparent absurdity of his talking with authority on technical matters affecting collegiate life and instruction. There was thus a handle afforded for attack and consistently with the spirit of human nature it was taken advantage of to the fullest extent by his brethren on the Syndicate. When such was the lamentable condition of one who was able to shine everywhere else as a fearless and domineering champion shall there be any necessity for probing into other cases ?

We should be failing in our duty if we did not make pointed reference to an allied evil which seems to have escaped all detection. It is quite often that an educationist at colleges stands in need of recognition at the hands of the Syndicate. While there is the possibility of the professorial members coming to know of his talents and achievement in the ordinary course of their work, he must go out of his way to be able to convince the non-educationist members of the essential soundness of his claims. This has often led to a demoralising sacrifice of the diginity and self-respect of the unfortunate educationist who has sometimes thus been forced to court the favour

not of the gentle and grey-headed seniors of his service, but of the rich and imperious members of another profession who have only a patronising sympathy for the best of his class. Nothing could be more baneful than even the distant prospect of such a humiliating dependence

It is by no means agreeable to us to have to continue in this strain. But we are furnished with another topic by the question of the representation of the University on the local Legislative Council. It is in terms of the highest praise that we should like to refer to the work of our eminent countryman who now fills the office with so much distinction to himself and benefit to the world of education. His zealous championship of Indian interests and his absorbing attention to educational questions constitute sufficient testimony to his fitness for the place. But the principles we have been enunciating are not affected by this frank and spontaneaus confession. We are only anxious to reflect on the unique circumstances that so long as a European was returned to that seat it was an educationist but since the time the Indian element began to have its way there has been a non-educationist, the inevitable lawyer so well-known in Indian public life. The question is not whether the functions have not been fulfilled with success, but whether the educationist has not been deprived of the value of that experience, the honour of that position and the privilege of that service.

P. SESHADRI.

PEASANT SCHOLARSHIPS VERSUS PATCHWORK COMPULSORY EDUCATION FOR INDIA.

By S. S. Thorburn, Esq. I.C.S. (Retired).

Conceding that literacy is better than illiteracy, in spite of the discontent and political unrest "a little learning" engenders, and that it is the duty of the Government of India, regardless of consequences, to provide for mass education to the extent reasonably possible, we have to consider how best, in view of existing conditions, this can be performed.

The circumstances which make 315,000,000 of Indians obedient to the just and centralized rule of a comparative handful of English sojourners are common knowledge. For our present purpose it suffices to divide the peoples of India broadly into two categories—urbans and rustics—with their respective dependent classes. The former—the town dwellers—including with them the bulk of the inhabitants of large villages with considerable bazaars, trade and industries not directly subserving husbandry, aggregate roundly 80,000,000, the latter—the village dwellers—235,000,000. Of these latter two-thirds are "agriculturists"—viz., hereditary landowners, tenants, and other cultivators, and the remaining one-third are their dependents, menials, and handicraftsmen, such as carpenters, blacksmiths, leather workers, potters, weavers, etc. These divisions are rough, and may be disputed, but, whatever the exact proportions are, the facts are indisputable that the great majority of the population of India is agricultural, and that upon their contentment rests not only the good government of the country but the very stability of our rule.

Hitherto, these toiling docile tens of millions have rarely shown impatience with us, but, when they have, we have invariably, by partially remedying or ameliorating their grievances, induced them to relapse into their normal state of uncomplaining passivity. Given his daily bread, a few coppers for clothes and necessary luxuries, such as tobacco, and immunity from excessive harassment by moneylenders, officials and lawyers, the average peasant submits to his lot; the yeoman farmer of good stock has larger wants, the hereditary landlord larger still. On the whole, then, when free from distressing poverty. Indian rustics of all degrees are benevolently disposed towards our bureaucratic administration, the saving grace of our "good intention" excusing our mistakes in their kindly thoughts.

Our root error has always appeared to me that in most of our legislation we have assumed that the business mind which actuates urbans, outside the low-and no-caste classes, is inherent in all Indians, whereas the truth is that what may suit

town-dwellers may not suit agriculturists. As a consequence, much that we have devised for the good of all India has not benefited but harmed the rural masses. I need not labour the point. Evidence in its support, *qua* Upper India, at least, may be read in a little book I published in 1886, called "Musalmans and Money Lenders." I am here solely concerned with the educational problem, how best, to quote from the title of Mr. Gokhale's Bill, "to make better provision for the extension of elementary education" throughout India.

I have only space to glance at the position as it is to-day, or rather was in 1907, when the last quinquennial review of education in India was issued.

In that year fully £4,000,000 sterling were spent on education, the Government finding 55 per cent., municipalities and the boys' fathers 25 per cent., and "all other sources, private and public," 20 per cent. The gross outlay was a round million more than at the end of the previous quinquennium (1902), and probably, when the next review is issued (1912), there will be further increase of possibly another £1,000,000.

Dividing teaching institutions into elementary—*i.e*, those in which instruction is only conveyed in the local vernacular,—and more advanced—*i.e.*, those in which English is either taught or used as the medium for imparting knowledge—the former absorbed about one-third of the total. As regards the proportion of "agriculturists" to "non-agriculturists" under teaching, the former probably now make up in the elementary schools an average of 35 per cent. of the pupils—the percentages varying according to locality. In the more advanced schools their numbers will be found to progressively diminish to vanishing point. I cannot be less indefinite because, so far as I can discover, there are no statistics in which pupils are grouped under the above two categories, though such a classification would be of far greater practical importance than that adopted in some of the returns—viz., "caste or race divisions according to religion." There are pages of figures, too, on "aboriginal and backward tribes," but nowhere a line on "agriculturists"!

To me the omission is a serious shortcoming. It is reasonable to presume that, as in the framing of our laws and regulations, their effect on the peasant masses should be the question for first consideration, the Government, when shaping its educational policy and allocating funds in its furtherance, should have exact knowledge of the numbers and classes of agricultural children in the various schools of each province. As far as I know, it has none. The want of this information illustrates a defect which runs through our whole administrative system. Were it remedied the disproportion between "agriculturists" and "non-agriculturists" in every grade of school would be conspicuous, and stiffen the back of a Government of "good intention" to resist the demands of the clamorous educated classes of the towns and remember its obligations to the village masses. In India it is quality not quantity which counts. A million literate peasants would be a greater power for good than two millions of other classes. When a young assistant, in the late sixties and early seventies, part of my duty was to inspect village schools. My practice was to order the sons of *zamindars* to stand up and then note the numbers of "agriculturists" and "non-agriculturists." Even in purely rural tracts far from any town, not 20 per cent. had any hereditary connection with land. The percentage now must be higher, but if it averages 10 per cent. in the secondary schools I should be agreeably surprised. For the last decade the Government has been pushing elementary education, and in 1907 out of an estimated total of 19,000,000 of boys of school-going age—say from 6 to 12—nearly 4,000,000—say one in five—were acquiring some sort of literacy. The number must be larger now. What the government should know before it further increases its expenditure is how many of the boys in every class of every grade are "agricultural" and how many "non-agricultural." Until it has such information, much of its pecuniary encouragement of elementary education may be misdirected or at least not used to best

advantage. As regards diffusion, examining the figures we have, Bengal has one elementary school to every four square miles of area, the Punjab to every thirty-one and the Central Provinces to every forty-five. Naturally the number of schools varies inversely to density of population and variety of occupations. Thus, Bengal is thickly inhabited and a hive of many livelihoods, in which the Government service, law, trade and manufactures attract in the order given. The other two provinces are strictly agricultural.

So long as education ends at ten or eleven years of age, and the teachers are drawn from life's failures, the smattering of "the three R's" acquired at school is not of great help to agriculturists in after life. A peasant requires more than the ability to write his name or spell through the words of a newspaper. Unless he can read comprehendingly a bond or mortgage deed, and realize the meaning of simple and compound interest and little phrases such as "with share in *shamilat*" (common land), three or four years schooling as a child under an indifferent master leaves him hardly fitter for his future struggles against indebtedness than were he wholly illiterate.

India's infant Hodges who do go to school require good teaching to awaken their minds from the sleep of ages, but what chance have they of learning "the three R's" when the pay of their masters—and there are 140,000 of them—hardly averages 12s. a month, a good coolie's wage? Such a pittance, as the Director General of Education in India points out, is not enough to "attract to the profession a properly qualified set of men," and then he reflects despondently that "an increase in the pay of primary school-teachers of one rupee a month all round would cost seventeen lakhs a year on the present number of teachers." Undoubtedly, throughout India the pay of the instructional staff both in primary and lower-grade secondary schools is miserably inadequate, and consequently few educated men adopt teaching in those schools as a profession except as a *pis aller*. This fact explains why such a considerable percentage of those ranks are spiritless drudges or grievance-mongers, and why so many of their pupils in after life turn out almost illiterate and also indifferent citizens of the Empire.

Condensing my ideas on the educational situation in India as it is to-day into a few propositions: Central and Provincial Governments are now cautiously and liberally pushing mass education for boys both primary and lower secondary, and incline to leave the further development of higher education to State-aided or unaided Municipalities and private persons; professional and business classes are keenly alive to the advantages of a good education with English as the medium for instruction; the rural masses, conscious of their disabilities from illiteracy, are willing to have their boys instructed, but are largely shut out from sharing the opportunities enjoyed by urbans owing to poverty, distances to nearest schools, etc. Being needy, simple and almost inarticulate, whereas the professional and trading classes—often English speakers—are comparatively rich, sophisticated and vociferous, the Governments—Imperial and Provincial—both in their secretarial and education-departmental officers, have been less in touch with the former than with the latter, and have consequently in the past conceded too much to the pushful progressives of the towns. Since the creation of the new representative Councils, agricultural India is vaguely expectant of betterment, yet fearful that, in the competition for educational favours, towns will benefit more than villages.

If we look into Mr. Gokhale's Bill we shall see that this fear is justified.

Few will dispute the wisdom of accepting the general proposition that, were money available, "elementary education should be gradually made compulsory throughout the Indian Empire," but everyone will agree that the antecedent postulate—provision of funds—is hopeless of fulfilment. In arguing his contention, Mr. Gokhale laid stress on the lessons to be learnt from the achievements of Western nations who have successfully tackled and solved the problem. But what they have done is no guide for India, they being comparatively, small,

rich, compact, advanced communities, India a poor continent inhabited by struggling, diverse peoples, the great majority dependent on one precarious livelihood—husbandry. With us, only since 1870, has attendance at school been compulsory for all boys and girls up to fourteen, and the expenditure is enormous—about £21,000,000—and is still growing. In India, schooling is voluntary, and the outlay upon it comparatively inconsiderable.

A few figures will show under what mountains of disabilities unknown in England, India labours, in addition to those of diversities of races, beliefs, tongues and mental capacities. India's population is sevenfold and her area twenty-five fold greater than ours, yet her revenue is not nearly half of ours. With us, boys and girls over six years of age are under compulsory instruction, number 5,000,000 and cost annually about £4 a head. In India out of 19,000,000 boys of school going age, 4,000,000 attend elementary school, and the expenditure on them is five shillings and sixpence a head. Perhaps the contrast between conditions in India and England can best be brought out by the following statement: One primary school serves 31 square miles in the Punjab and 45 in the Central Provinces—both agricultural countries—against only 4 in Bengal, a land of varied occupations. What the proportion is in this island, I do not know, but probably it averages roundly one to the square mile. In India the distances to be walked and the poverty of the parents make schooling impracticable for millions of boys. In the case of secondary schools, as they are mostly located in towns, they are generally beyond the reach of agriculturists. Thus, one serves 407 square miles in the Punjab, 1087 in the Central Provinces and 112 in Bengal.

Some may say, "These figures only show how mass education has been neglected in India." True, but in a continent in which the average daily income per inhabitant is said to be a penny, the Government cannot afford to spend much on popular education and the parents require the services of their sons from an early age. As a fact, the cost per head of population falls at a penny in India against ten shillings in England. Happily the Indian Government now recognizes that the penny should be doubled or even trebled—were that possible—and is doing its best to bring education nearer the homes of the poorest. But its best can never be much. To usefully teach 20,000,000 of boys—and I may add a like number of girls—to read, write, and cypher (including the finding of board and lodging for certainly 5 percent. of them) would eat up more than a half of the Imperial and Provincial revenues of India. If in the next-twenty-five years the Government can make its 1907 expenditure on elementary education 4,000,000 sterling, the extreme limit of possibility will have been attained.

That, as many zealous educationist contend the money can be found by reducing the army, both the English and Indian sections thereof, and cutting down charges on the English element in the Civil administration and on public works finds no support from men of understanding.

In framing his bill, Mr. Gokhale regretfully recognizes what he calls the "limitations of the position," and for the present only seeks the empowering of Municipalities and District Boards, under strict safeguards against precipitate or imprudent action, to introduce compulsion within selected areas inside their respective jurisdictions, first for boys only and later, he hopes for girls as well.

On the crucial question of finance the bill is ominously vague and unsatisfactory. It authorizes the position of a school cess by the bodies electing for compulsion, and even the collecting of petty fees from parents with incomes over £10 a year, and leaves to the Government the decision as to the proportions of the whole extra expenditure to be met by those contributors and itself.

The propbsal was, on the whole, sympathically received. On the question of compulsion, the general attitude of the Members of the Council who spoke was non-committal. A cogent objection was raised that as Municipal and District Boards are either under the influence or control of the

District Officer, he would in every case be the authority ultimately responsible ; hence, before the new departure could operate, it would be necessary to reconstruct the Boards on a genuinely popular basis. Further, it was doubted whether, taxation being already heavy, any locality could bear the extra burden of a new education cess. In fact, in spite of the terminology of the financial clauses of the bill, it was generally recognized that the chief pay-master must be the Government—*i.e.*, the general tax-payers, not the local cess payers.

Universal compulsion being ruled out as impossible why should the Government accept the patchwork compulsion of the bill, and thus force the ignorant masses of taxpayers to pay for a measure which could only operate to their undoing ? If some rich Municipalities and a few square miles of exceptionally prosperous Arcadias, such as may be found on some of the state-canal-irrigated tracts, want universal compulsion within their respective areas, why should they not be required to pay for it, why should the already favoured or happily placed few be further benefitted at the expense of the poor tax-laden many ? The utmost that can be conceded is, I submit, that if anywhere a large majority of citizens *bona fide* vote for compulsion and the imposition on themselves of a heavy education cess the State might consent, on conditions, to meet a fractional part, say 10 per cent. of the extra expenditure. But, even so, such action would not be quite fair upon the agricultural masses of the country, the poorest, most ignorant and heaviest weighted communities in India.

In spite of this objection, I think Mr. Gokhale's scheme should have a fair trial, provided that in its ultimate form about 90 per cent. of the additional cost be thrown on the localities—preferentially Municipalities—electing for compulsion, education cess and school fees.

Conceivably, universal elementry education at the charge of the Gvernment might be tried experimentally throughout some large rural areas, say a civil district or division in each presidency. Though that, most of the beneficiaries being agriculturists, would be less objectionable than Mr. Gokhale's project, it would still be patchwork and open to the other criticism advanced against the concept or intention underlying the finance of the bill under consideration.

Should that bill,amended in the direction suggested by me, become law it would, I think, be unnecessary to restrict its scope to Municipalities alone, because it is hardly conceivable that any local government except in a very rare case, would approve of any District Board's proposoals for compulsion and the levy of a special cess. That body's jurisdiction lies outside municipal areas, and in the villages indigence and illiteracy are the common lot. The contrary is the case in many towns, if we exclude fromthe accounts low- and no castes, say 15per cent of the inhabitants. As their social superiors—Musalmans as well as Hindus—are exclusive, arrangements for teaching the children of menials and bottom-grade handicraftsmen would be difficult and it would frequently be found that the educational zeal of the cesspayers would cool to freezing point when they realized that their money would be partly applied to the teaching of their serving dependents. Thus if, even in such municipalities, Mr. Gokhale's scheme, as amended, should frequently fail to materialise. how much more likely is it that it would be a dead letter to District Boards ?

A further consideration is this—the bulk of the funds administered by local bodies is already earmarked for fixed services, the percentages to be spent on education, dispensaries, police, conservancy, roads, lighting, etc., being all prescribed by the paternal Government. Further, in the Punjab, perhaps elsewhere, an education cess of 1 per cent. on the land revenue has always been collected—it is now marged in what is called a "consolidated" cess—and the pity of it has been that, for fully fifty years, the money so procured from the agriculturists has been largely employed in the teaching of urban boys and has consequently contributed to the impoverishment of those known as "the finest peasantry in India."

Assuming from the King-Emperor's announcement a few weeks ago at the DelhiCoronation Durbar, and the known intentions of the Government, thatin the next few years, further grants for the

promotion of popular education will gradually be increased up to a figure approximating to half a million sterling, and that Mr. Gokhale'e bill if not thrown out will be passed with its financial clauses altered to the extent or in the direction suggested by me, we have to consider how the money to be allotted can be em loyed to best advantage. Obviously, the first duty of the Government is to make education accessible and desirable to the agricultural communities of India. Obviously, too, that is impossible without better paid teachers, the wide bestowal of small peasant scholarships and the opening of new schools. In what proportions funds, as they become available, should be distributed under those three heads, it is difficult to suggest. My idea is that, after setting aside, say, £20,000 for grants-in-aid to practically self-supporting elementary schools established under the modified Gokhale project, of the £480,000 in hand about 50 per cent. should go to teachers, 45 per cent. to scholars and only 5 per cent. to new schools. On the hypothesis that the yearly capitation disbursements to teachers and scholars will average £3, and that the annual cost to the Government of each new school will be £10, the beneficiaries would be 80,000 schoolmasters, 27 900 pupils, and 2,400 new schools.

This rough distribution is open to the criticism that more extended provision should be made for the teachers, as that proposed leaves 60,000 unprovided for, and that consequently it would be better to reduce the number of scholarships, defer the opening of new schools, and use the money so obtained in giving the whole teaching staff a satisfying or, at least, living wage. It may be so; but many teachers would be home-tied youngsters, and for the first few years of their service at least not unwilling, for a small stipend, to do easy work —six or seven hours a day—in their own villages. As to new schools, it seems to me that, wherever there are, say, 300 congregated habitation. and the head men of the village are willing to provide the accommodation, it would be a mistake for the Government to refuse to find money to pay for a schoolmaster and a few primers boards and slates.

On the question of a widely diffused bestowal of agricultural scholarships there must be differences of opinion. My reasons for advocating them are shortly :

1. Though the agriculturists of India are the chief tax-payers, "the pillars of the State" so to say, their interests in the past have been less considered than those of town-dwellers ; they have therefore a right to special preferential treatment.

2. As far as I can judge, only by the means proposed will needy parents appreciate education and make personal sacrifices to send their sons to school.

3. One Scholar will be a shining example to a whole community and do more "fort he advancement of learning" than the exhortations of a whole succession of Tahsildars, Education Inspectors and District Officers. Imagine the emulous envy excited by the sudden blossoming out of a dirty little goatherd into a clean, nicely-dressed scholar, the proud possessor of three or four rupees a month with the expectation later of a billet in the Police, Army or District Office.

I have now shortly put before you what appears to be the competing arguments for the Gokhale scheme as it stands and as corrected by certain financial modifications. I have also stated what I believe to be the right line for the Government to take. Further, it seems to me that there is no getting away from the conclusion that, though the first duty of the Government is to make education possible and attractive for the agricultural masses, the State should also help those urban and other classes who are willing and able to help themselves by supplementing receipts from their self-imposed cesses and fees to the extent of about 10 per cent, on collections. The smallness of the demand on the general taxpayers against the largeness of the funds to be provided by each locality would practically remove the objection that most of the grant-in aid would in each case be drawn from the ignorant masses of the community.

I am aware that the proposed solution will appear to some as an extension of the so-called

"indefensible" grant-in-aid system, which, to quote from Sir Roland Wilson, "taxes the poor and stupid for the benefit of those who are rich and clever." However that may be, the system has been common to all civilised States since the beginnings of history—for instance it is the leverage employed for working the Ten Commandments—and without it poor human nature would fall to the dead level of individual mediocrity, the imagined ideal of Socialists.

I submit, then, that until a better is established my solution holds the field.

[N. B. This paper was read at a meetin the East India Association, London].

HYGIENIC SECTION

SOME FACTS ABOUT MALARIA.

Mal = bad & aria = air. A specific poison entering into body produces fever.

Onset is sometimes sudden sometimes preceded by *malaise.*

Symptoms :—

Cold Stage

(1) Chill from lower end of back
(2) Tremors—from lower-jaw—chattering of teeth—extending to lower regions and extremities.
(3) The face is pale or livid
(4) Darkrings are seen about the eye
(5) The features are pinched and sharp
(6) The whole skin is shrunken
(7) The fingers are dead white
(8) Nails are almost bluish
(9) Pulse is *small, hard* and *quick.*

Internal symptoms :—

(10) Swelling of the spleen
(11) Engorgement of the heart
(12) Feeling of oppression in the chest
(13) Kidneys conjested—Copious flow of clear and watery urine
(14) Temperature rises to 1030 or higher.

Dry stage

(1) The skin becomes warm and dry after 2 to 3 hours of the cold stage
(2) Pulse becomes softer—but more quick.
(3) Throbbing of temporal arteries
(4) Urine scanty and high coloured
(5) Temperature rise to 1040 to 1050 or even higher
(6) Considerable thirst
(7) Intellectual unfitness.

Remittent type :—

A certain abatement or remission of fever takes place—but there is no true intermission. The paroxysm repeats itself after 12, 24 or 48 hours, The state of chill lasts for a very short time—but the hot stage preponderatas.

Symptoms :—

(1) Bilious symptoms—even jaundice
(2) Tenderness over stomach and liver
(3) Towards morning fever abates.
(4) Pulse falls in frequency but not normal
(5) Exacerbation about noon generally occurs
(6) Convalescence commences within a week.

Aggravated Symptoms :—

(1) Stupor
(2) Delirium
(3) Collapse
(4) Intense Jaundice
(5) Blood in the Stools
(6) Blood and albumen in urine
(7) Suppression of urine
(8) Convseluions

Complications ;—

(1) Dysentery
(2) Bronchites
(3) Pneumonia

Dwellers in a malarious country have following characteristics :—

(1) Sallow skin
(2) Enlarged liver and spleen
(3) Tumid bellies with slender limbs
(4) Sometimes dropsy
(5) Malarial cachexia

Exposure to malaria may lead to :—

(1) Neuralgia or brow ague
(2) *tic douloureux.*

MORBID ANATOMY :——

(1) Congestion and enlargement of liver and spleen.
(2) Black pigment in blood and deposit of it in spleen, liver and other parts.

(3) Ulceration and sloughing of mucous membrane of the great intestines (something analogous to the symptoms of acute dysentry)
(4) Swelling and ulceration of lymphatic follicles of the smaller intestines.

MALARIAL AREAS

Water logged soil—with extremes of temperature by day and night—helps the production and growth of malaria.

Rocky countries near water—with extremes of temperature by day and night—also are similarly affected.

Rank Vegetation and even desert climates show unmistakably characteristics of malarial outbreak.

Earthquake sometimes originated malaria in a locality (as at Amboyna in the Moluccas after the Earth Quake in 1835)

MALARIAL SEASONS

In equatorial regions—rainy season is the season for malaria.

In temperate climates—autumn after harvest. Hill fever in the Deccan, Mysore and Algeria is something like malaria—and it occurs in the hottest season.

DIFFUSION OF MALARIA

Raising of dwelling and sleeping places—lessons the attack of the desease.

Wind dissipates it. A belt of trees or even a wall sometimes arrest the spread of malaria.

CONDITIONS OF ORIGIN OF MALARIA

"In all localities and at all seasons it is after sunset that the malarial effect prevails and it tells most when a cold night follows a hot day."

Persons poorly clad, housed and fed catch malaria quicker than persons in the reverse conditions.

Fires at night in a malarious locality are well known protections from malarial fever.

HYPOTHESES ABOUT ITS ORIGIN :—

There is a periodicity in the attack.

The oldest theory is that it is some specific poison generated in the soil.

Wet soil produces it. Malarial disease appeared in many localities during the making of railway cuttings, canals, upturning of virgin soil.

Vegetable organisms in state of putrefaction may produce malaria.

There is also the theory of "telluric intoxication"—i.e. an emanation generated by the vegetative power of the soil when not exhausted by plant growth.

Sudden abstraction of excess of heat from human body produces malaria.

LAVERAN'S THEORY

"Malaria is caused by a microscopic parasite in the blood—into which it is generally introduced by the bites of a certain species of mosquito."

In 1846—Rasori guessed that periodical febrile paroxysm of malaria corresponds with the development period of certain organism or parasite.

In 1880 Laveran—a French army surgeon found out the living parasite in the miscroscopical examination of the blood of a malaria patient.

In 1894—Mauson investigating on filariasis found that mosquito plays an important part he by analogy thought of malaria.

In 1895 - Ross found that the malarial parasite is found in mosquitos of the genus of Auopheles; and in 1897 he discovered the peculiar cell.

In 1898—infected Auopheles, bite caused malaria in a healthy person.

In 1900—Dr. Sambon & Dr. Low with Signor Terzi lived in mosquito proof dwelling even in the midst of prevalent malaria from sun set to rise and they escaped the disease.

Professor Celli tested the truth with wire netting and his experiment proved the truth of the theory. Statistical results also confirm this view.

The parasites occupy and destroy the red corpuscles, converting the haemoglobin into melanin—they multiply in the blood by spoulation and produce accessions of fever by the liberation of a poison or toxin at the time of sporulation. According to Dr. Manson this theory is satisfactory but yet all facts were not explained by it.

PREVENTION :—

1. Neighbourhood of stagnant waters to be avoided. They are either to be drained or sprinkled with petroleum, which prevents development of the larva of the auopheles with planting of Eucalyptus trees.

2. Wire or any other kind of gauze to be used at doors and windows.
3. Mosquitoes may be destroyed by fumes of Sulphur dioxide or tobacco smoke.
4. Burning Chrysanthemum flower. Valerian roof in bed rooms.
5. Anointing the skin with some oil strong in smell—turpentine is best.
6. Exposure at night to be avoided.
7. Chills must not be endured.
8. Malnutrition to be avoided.
9. Systematic use of a small dose of quinine, 5 to 10 grains, once a week.
10. Small doses of arsenic also gives a good result.

Prevention is always better than cure, but if the disease attacks—the following remedies are commonly used :—

Intermission Stage

The dry heat condition might last up to 6 to 7 hours, and it comes to this third stage when

(1) Perspiration—at first moistness of skin—to copious perspiration.
(2) Sleep may overtake the patient. He feels much better.
(3) Temperature falls almost to normal after 12 to 14 hours of first attack.
(4) The pulse is then moderate and full
(5) Spleen becomes of ordinary size
(6) Urine has a brick-red deposit of urates.

Attack may again occur after lapse of

(*a*) 24 hours—(quotidian ague)
(*b*) 48 hours—(tertian ague)
or (*c*) 72 hours—(quartan ague.)

General times of attack
(*a*)—Generally morning
(*b*)—Generally noon
(*c*)—Generally afternoon

Paroxysm becomes minimum or ceases after midnight or early morning.

If the fever does not cease within 24 hours —it is remittent—if it ceases it is intermittent.

1. Cinchona or Peruvian Bark with its alkaloids quinine—it is to be administered *during intermission* or *remission* of fever.
2. Arsenic
3. "The dwellers in malarious localities have found in opium—a palliative of the misery induced by the malarial cachexia."
4. In chronic cases with anamia, melanosis, enlargement of spleen and liver and general cachexia, quinine still is the specific—it is to be given in any form—but in serious cases it should not be given in solid from—but in solution by the stomach, rectum or hypodermically. (Mauson).

Ross is of opinion, high dose (30 grains from adult) to be *promptly* administered.

Euquinine—is by some preferred—but it is more expensive.

GENERAL TREATMENT :—

1. To moderate the violence by saline laxatives, rest in bed and lowdiet.
2. To diminish heat production.
3. To increase heat loss.
4. To support the strength of the patient.
5. To obviate local inflammations and congestions
6. To relieve any urgent symptoms as they arise.

During Fever

Take of—

Solution of acetate of ammonium	2 dr.
Sweet Spirit of Nitre ...	20 m.
Nitrate of Potash ...	4 gr.
Water ... up to ...	1 oz.
Mix for one dose—every	3 or 4 hrs.

During Remisson

Take of—

Sulphate of Quinine ...	gr. 3 to 5
Dilute Sulphuric acid ...	m. 6 to 10
Water ... up to ...	1 oz.

Mix for one dose—every 3 hrs.

In case patient suffers from constipation ½ dr. of Sulphate of magnesium may be mixed with each dose of these maxtures.

A. NEYOGI

CONTRIBUTIONS FROM STUDENTS.

THE KHILJI DYNASTY.

Of all the Mahammadan dynasties that had ruled in Delhi before the great Mogul family occupied the throne, the dynasty of the Khilijis appears to be the highest important when judged from the historical standpoint.

Although the duration of their occupation

was short and the reigning kings were merely three in number, the family must be looked upon as the brightest of all.

The short period of thirty-three years, from 1288 to 1321, during which the Khilijis enjoyed the throne of Delhi has been rendered memorable in the history of India by the subjugation of the Deccan to the arms of the Mahammadans.

The Khilijis, though descended from the Turks, had almost become identified with the Afghans, through their early connection, and long settlement, with the latter in the Afghan Country, between India and Sistan ; and they must have entered into India with the various invading Mahammadan tribes. We know from Ferista that the Afghans and the Khilijis of Laughman furnished useful recruits to the army of Subaktigin in his struggle with Jaipal. During the slave rule they were placed in important high posts and Jalal Uddin Khiliji was given the post of the ministership of the crown.

When the slave dynasty came to an unhonored end with the assassination of the debauchy king, Moiz Uddin Kaikobad, there arose in the court several parties, under the leadership of the prominent military leaders, each of whom strained his every nerve to secure the succession of the crown for his own nominated candidate.

Under such circumstances the Khilijis had taken time by the forelock and prevailed over the other parties and placed Jalal Uddin Khiliji, the ablest among themselves, upon the throne, and thus was founded the Khiliji dynasty in India in 1288 A.D.

The commonly accepted belief is that Jalal Uddin had Kaikobad assassinated and kept his infant son, whom the other party tried to raise to the throne under the name of Shamuddisn, in custody and put him to death as soon as he felt strong enough for such an atrocious measure. The fact may or may not be true ; but if this be true, certainly Jalal Uddin was the meanest hypocrite the world has ever produced ; for,

"He affected extreme regret at having his high office forced on him, and professed the utmost respect and attachment for the memory of Ghias Uddin". Not this all. He even "overacted humility so far as to refuse to enter the royal palace on horse back and to stand at his usual station in the court instead of occupying the throne."

But if, on false grounds, be this devilish action imputed to him, which is not improbable, the world should be inclined to acquit him of his hypocritic reverence for the old dynasty ; for, during the remainder of his reign he was best known for his leniency to his enemies—leniency which was carried even to a fault and for his simplicity of manners which often goaded him to associate himself with the old friends of his private life.

Manifold were the instances of the royal clemency towards his enemies, but those towards the rebel, Malik Jahju, a nephew of Ghias Uddin, and a body of chiefs of his own tribe who plunged themselves into a plot against the life of his sacred royal personage, exhibit him as the brightest of the pardon loving kings of the world.

Malik Jahju, backed up by all the adherents of the house of Balbon, rebelled against Jalal Uddin in his government of Kharra, and even ventured to march into the heart of Delhi, but the king's second son Arkalli administered a crushing defeat on his army, and all his chiefs, including the rebel himself, were made prisoners by the prince.

But the king immediately released them ; and not only Malik was sent to Multan, but a liberal establishment was allowed to him for the remainder of his days.

On another occasion the king showed his magnanimity towards several plotters of his life and set them free unscathed. But "unfortunately, he did not confine his lenity to personal injuries, but allowed so general an impunity to offenders that the whole frame of the government became relaxed ; governors withheld their tribute, neglected their duty, and abused their power ; the roads and highways were infested by robbers, and bands of plunderers and insurgents interrupted the communication between different parts of the Kingdom."

Such is everywhere the case in the Asiatic Kingdoms, where the rulers show their leniency towards their officials and subjects.

In 1292 an insurrection broke out in Malwa and the aged king (he was then seventy four years of age) himself marched into the country to quell the rebellion ; but his aversion to bloodshed coupled with the feebleness of his age left the suppression of the revolt incomplete.

A Mogul invasion of the Punjab drew the attention of the king who in this case also, went in person to meet the invaders; and he succeeded in giving them a terrible defeat. But as moderation was the characteristic quality of the king, the defeated Mogals were allowed to retire unmolested. "Three thousand Mogals on this occasion joined his standard, and soon after embraced the Mahammadan faith."

In 1293 Jalal Uddin made another march to Malwa; but unfortunately this too was as inconclusive as the first.

About this time rose into prominence his nephew, Alla Uddin, a man of vigour and ability, quite free from all the obstructive scruples of his royal uncle; and he obtained Jalal Uddin's permission to quell the insurgents of Budelkhand and Malwa. The permission being granted Alla Uddin, who was at that time Governor of Khara, marched there and completely subdued the rebellious chiefs.

On his return Alla Uddin visited his uncle, who, to show his entire satisfaction, gave him the Government of Oudh, in addition to that which he had before.

But the glorious incident of the reign of Jalal Uddin was neither his march to Malwa, nor his victory over the Mogols, but the attempt by his nephew Alla Uddin, of the hitherto untried adventure of an invasion of the Deccan. It is in this reign that the Mahammadan arms for the first time in the history of India, breathed the air of peninsular India.

In the year 1294 Alla Uddin made an expedition into the Deccan and for the first time carried arms across the Normoda, thus paving the way for the conquest of Southern India.

Aila Uddin set out from Kharra, made his way through the mountains and forests of the Vindhya range, which so completely seperates Hindusthan from the Deccan, and by rapid marches proceeded to Deogiri, the modern Daulatabad, which was the object of his main expedition.

Ramdeo, a peaceful but powerful king of Deogiri, was taken by surprise; he hastily collected a large army, but was unfortunately defeated. The Raja had actually concluded a treaty very favourable to the invaders, when his son, Sankara Deva, suddenly attacked the Mahammadan army; and an obstinate battle was fought which eventually terminated in the victory of the Musalmans.

This victory of Alla Uddin raised his demands. The Raja was compelled to agree to an immense payment in money and jewels; besides the cession of Elichpore and its dependencies; and Alla Uddin drew off through Khandesh to Malwa.

Beyond measure is the depth of the importance of this expedition—the expedition which explored a new route into the Deccan with its enormous wealth and splendour and which is equally important to the historians as well as to the geographers.

It must be borne in mind that this expedition was unauthorised and was undertaken without leave.

During the absence of Alla Uddin in the Deccan, the old and enfeebled king remained in suspense and anxiety both as to the fate and designs of his nephew; and when he returned to Hindusthan, loaded with gold and covered with glory, the king's delight knew no bounds.

But some of his more sagacious advisers took a different view of the matter. The fresh proofs of the daring spirit of Alla Uddin and the huge army at his control roused doubts and fears in the minds of the courtiers; and they advised the king to adopt precautionary measures to prevent him from gathering another army, when the present one dispersed.

But the generous temper of Jalal Uddin led him to disregard all these admonitions and in consequence to hand over his own life to the recently blood-stained hands of his nephew.

Alla Uddin, with a small escort went to his uncle, apologised to him for his unauthorised expedition, and soothed the anxious mind of the King.

When the tender-hearted King of seventy seven years of age gave him a paternal embracing and was affectionately patting him on the cheek, Alla Uddin made a signal to the assassins, posted for the purpose, who rushed forward and stabbed the king to the heart. His head was stuck on a spear and carried aloft through the camp and the city.

Thus ended the life of Jalal Uddin, one of the most kind-hearted, affectionate king the throne of Delhi did ever bear. Certainly it was "the most unkindest cut of all"; and if we

accept the general account that through bloodshed Jalal Uddin placed himself on the throne, it was surely his meet termination that he departed from the world, bathed in his own blood by the hand of him whom he loved from the bottom of his heart.

(*To be continued*).

TARAK D. BANERJI, B.A. student.

A POEM.

In days gone by when I was nigh,
You seemed to look at me and sigh ;
And then I did not know the cause
That made you stop and steer and pause.

A few days later in your way
I was with you in month of May,
When hilly sides were brightly green,
And landslips ran the tracts between.

We played along ; as we went on
I plucked the daisies white and brown,
And walking, you prepared a wreath,
Placed round my neck 'with joy
and health.'

Can I forget the happy time,
When thou wert sweet, and I was thine
To break a woodlance for thy sake
In crushing foes that creepers make.

But, Alas ! Oh ! the days are gone
Days divine, would ne'er come again !
These are days of false conceit,
Those were days of joyous meet ;

These by envy, greed polluted,
Those by love, content adorned ;
Wouldst thou convert these days to those,
And eyes, these burning, to repose ?

This was the theme of thought who loved
A virgin pure and chaste and good ;
This was the flow of passion moved
By wounded heart of morose mood.

The boy knew not the value then,
When, only he to manhood grew,
Till then the pearl he could not ken
He caught a 'glass' and 'pearl' he threw.

Such is the eye of youth, I trow,
Well charmed it is with showy things,
Discards essential jewels now,
But now he weeps, and weeping sings.

So let this teach the youths to-day
That rashness is not good in choice,
That 'pills' are good, taste bad they may,
And 'wine' though sweet hoarsens
the voice."

J. N. RANA.

REVIEWS AND MINOR NOTICES

Twelfth Night By H. C. Duffin, Macbeth by S. E. Goggin 2s. each. University Tutorial Press.

The Tutorial Press has deservedly won the gratitude of the educated community by its publications. The editions of English classics, which this establishment has placed at our hands, do in no way diminish its credit. The present editions of *Twelfth Night* & *Macbeth* are all that could be desired for school editions of same. The introduction is well-written and useful ; and the Notes are well-chosen and suggestive. They leave nothing uncared for, which the inquisitive reader may care to know. The Notes are neither voluminous, nor meagre, but just to the point. The Index is well prepared. The general get-up, printing and binding are quite up to the mark, and, for the price, cheap enough. One would only wish that more such editions were coming out.

Text Book of Hygiene for Teachers. By Robert Lyster, M. D., Ch. B. B, B.Sc. (Lond) D. P. H.B, . Sc. (Public Health). (University Tutorial Press). 4*s* 6*d*.

The book is an excellent *vade mecum* for. Teachers entrusted with the charge of a schoolThe boy's health should be of paramount importance to a teacher and it is being daily recognised that School Hygiene is a necessary and indispensable subject for teachers. The author's book on *School Hygiene* met with enormous success and this book containing a more elaborate treatment of the matter with an increased amount of physiological detail will be all the more acceptable to earnest students of the subject.

SCIENCE NOTES ETC.

The Solar Eclipse

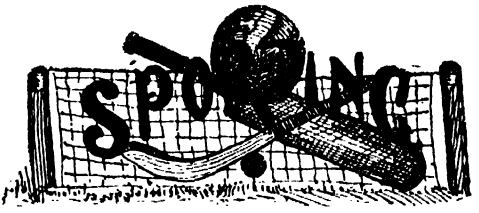
SELDOM can an eclipse be watched in England under such favourable conditions as observers experienced on April 17. Tho memory of the event will still be fresh in theEnglish pupils' minds—sufficiently so to make it well worth while to explain some of the more important points in the relative motions of sun, earth, and moon. It is surprising how many persons of ordinary education fail to answer the question. "Do solar eclipses happen at new moon or full moon ?" It is less surprising that the man in the street can not tell why there is not an eclipse once a month. Of course solar eclipses would be monthly occurrences if the plane of the moon's orbit coincided with the plain of the earth's orbit round the sun. As the angle between these planes is $5^{\circ}9'$, we have not fewer than two nor more than five solar eclipses per annum. On this occasion it was difficult to predict whether an annular or total eclipse would be seen at the centre of the shadow. Why ? This questionleads to a recognition of the elliptic character of the moon's orbit, in consequence of which its apparent diameter varies from $28'48''$ to $33'32''$, while the sun's diameter is seen to change from $31'32''$ in summer (when we are farthest from the sun) to $32'36''$ in winter.

Direct Photography of Colour.

Direct photography in colour has been achieved in two ways at least, independently of the use of pigments, dyes, or coloured screens. At a recent meeting of the Royal Photographic Society a spectroscopic method was shown by L. and E. Rheinberg, by which the authors obtained wonderfully true colour photographs of landscapes, portraits, &c.

In Darkest Brazil.

Mr. A. H. Savage Landor has just returned to England after performing an extremely arduous feat of Exploration. His journey included the whole of the unexplored part of Brazil, a region which was regarded as impenetrable by the Brazilians' themselves. The hither to unknown portion of the route was about five thousand miles. Often a way had to be cut through virgin forest, and the expedition suffered much from insects. For sixteen days Mr. Landor and his two followers were without food. He studied several new tribes, made vocabularies of their languages, and has accumulated much information of scientific value. He carried no weapons and met with no hostility. We look forward with interest to the fuller account of his great journey, which he has promised to give to the Royal Institution on June 14.



HOCKEY.

BENGAL GYMKHANA CUP TOURNAMENT FINAL.

Town Club *vs.* Allahabad Students Club.

These two teams met in the final tie of the above Cup tournament on the Mohan Bagan ground on Monday, before a large crowd of spectators when after a fast and interesting struggle the game resulted in a win for the visiting team from Allahabad by two goals to one. Bose scored the goal for the Allahabad team during the initial half. After ends had been changed the Town Club played the better game and Day scored the goal for the Town Club team and Mukerjee scored a penalty goal in extra period.

The sides were :—Students' Sporting (Allahabad) :—Ali ; Dutta and Chatterjee ; Roy Banerjee and Chatterjee ; L Roy, Mitter, Bose, Mukerjee and Chowdhury.

Town Club :—Auddy ; Mitter and Biswas ; J. Biswas, Bose and Mullick ; Banerjee, Bhattacharya, Deb, Dey and Bannerjee.

Referees :—

Messers :—C. Barlow and S. N. Bose.

At the conclusion of the game Mr. D. N. Bose very kindly gave away the cup and 11 gold medals to the Allahabad team and 11 silver medals to the runners-up and the League cup to the Eastern Association team.

The usual cheers brought the tournament to an end.

THE METROPOLITAN INSTITUTION COLLEGE DEPARTMENT.

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VI. *Staff*

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Bengali Composition—Kali Krishna Bhattacharyya, Radharaman Vidyabhusan and Ram Krishna Vidyabhusan.

Sanskrit—Kali Krishna Bhattacharyya. Radharaman Vidyabhusan and Ram Krishna Vidyabhusan

Pali—Amulya Charan Vidyabhusan.

Mental and Moral Philosophy—J. R. Banerjea, M. A, B. L, and K. C. Gupta, M. A., B. L, (formerly Principal, Daulatpur Hindu Academy).

Logic—K. C. Gupta, M. A.

History, Economics and Political Philosophy—Manimohan Sen, M. A. and Nripendranath Dutt, M. A.

Mathematics—Saradaranjan Ray, Vidyavinode M. A. (Principal), M. Ray, M. A. and S. C. Bose M. A.

Physics—Anath Nath Palit M. A. (Honorary Lecturer in Physics, Indian Science Association) B. C. Ghosh, M. A.,, M. B., B. C. (Mathematical and Natural Science Tripos, Cambridge and University Lecturer), P. C. Bose M. A. and Rajkumar Chatterji (Holder of 1st class certificate in Drawing &c., Bombay School of Art)—Physical Laboratory Assistant.

Chemistry—P. N. Das M. A., H. K. De, M. A. (Woodrow Scholar), H. L. Dass Gupta, M.A. and S. L Mukherji, B. Sc (Demonstrators).

Law—J. R. Banerjea M. A., B. L., Surendra Chandra Sen, B.L. and P. K. Sinha, Barrister-at-law.

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BUSINESS NOTICES.

All communications intended for he Editor should be addressed "To the Editor" and not to any memb of staff by name.

All communications of a business ature (advertisements, changes of address, enrolment as a subscriber) sh ld be addressed to the Manager, and all remittances sh uld be made pa ble to him.

NOTICE TO CORRESPONDENTS.

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Communications intended for publication must be accompan d by the name and address of the writer not necessarily for publicatio but only to satisfy the Editor.

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Vol. II. THE COLLEGIAN No. 5.

All-India Journal of Education

CALCUTTA, THURSDAY, JUNE 13, 1912.

College for girls in Bombay.

We are glad to note that an important scheme is under contemplation to establish a college at Bombay in connection with the Jesuit Fathers. The scheme proposed which is still in embryo is to establish a college solely for girls where a higher standard of university education may be obtained. There is no College in India exclusively for young ladies and if a young lady wishes to further her high school education she has to attend college along with young men of different denomination. It is thought that if a separate college existed, there would then be greater number of lady candidates appearing for university degrees. In the absence of this want parents discontinue sending their girls to a college, the chief objection being that they would have to mix with all classes of young men, whereas if an institution existed purely and solely for young ladies, the parents would greatly appreciate it and a very important objection will be removed. The scheme meets the approval of the Governor, and the Roman Catholic Archbishop is greatly interested. The details of the project which require serious consideration are not ready for official submission to the Government.

We think our readers are aware that we proposed this scheme in these columns in our February No. 2.

Calcutta University Exam. Results 1912

The results of Matric., I. A., I. Sc., and B. Sc. Examinations of the Calcutta University are satisfactory. Only in the B. Sc. Examination the percentage comes a little lower than the usual, next comes the I. Sc.

Professor becomes Editor

Mr. Maheshwar Prasad B.A. who was Professor of History in the Muir Central College of Allahabad, has resigned his service and come down to Patna to

serve as the Editor of the *Beharee*, the only daily in the province of Behar and Orissa. He has shown a remarkable sense of self-sacrifice and patriotism. Principal Jennings gave an "At Home" in his honour on the eve of his departure.

Dacca University Commission

The Governer-in Council has been pleased to appoint the following gentlemen to form a Committee for the purpose of framing a scheme for the establishment of a University at Dacca:—Mr. R. Nathan, President; Mr. G. W. Cuchler, Director of Public Instruction, Bengal; Dr. Rash Behari Ghosh, Vakil High Court Calcutt ; Nawab Saiyid Nawab Ali Chaudhury, Khan Bahadur of Dhanbari, Mymensingh District; Nawab Seraj-ul-Islam, Vakil, High Court, Calcutta; Babu Ananda Chandra Ray of Dacca; Mr. Mahomed Ali, Syndic of the Mahomedan Anglo-Oriental College, Aligarh; Mr. H. R. James, Principal, Presidency College, Calcutta Mr. W. A. J. Archibold, Principal Dacca College: Mahamaho. padhya Satish Chandra Acharya Bidyabhushan Principal, Sanscrit College Calcutta; Dr. Brajendra nath Seal, Principal, Victoria College, Cooch Behar; Babu Lalit Kumer Chatterji, Principal Jagannath College, Dacca; Mr.C. W. Peake, Professor, Presidency College, Calcutta ; Shmasul-Ulama Abu Nasr Muhammad Wahid Superintendent, Dacca Madrassa; Mr. D. S. Fraser, I. C. S. has been appointed Secretary to the Committee. The Hon. Justice Sir Ashutosh Mookerjee, Kt. Vice-Chancellor of the Calcutta University will advise the Committee on the problems which they are called upon to consider and the Governor-in-Council trusts that they will take full advantage of the opportunity thus afforded to them of benefiting from his unrivalled experience in the conduct University affairs.

*

Primary Education Society in Benares.

A society for imparting free primary education has been started in Benares. Its object is to impart free primary education and the society has met with considerable success in this line as many as ten night schools having already been opened in different parts of the city.

Royal Asiatic Society Presentation of Triennial medal.

Lord Minto, presenting the triennial gold medal of the Royal Asiatic Society to Mr. John Faithful Fleet gave an outline of the recipient's services to Indian historical research, observing that his writings constituted a monument of scholarly acumen and accuracy.

The annual report of the society announced that the lease of the premises had been renewed for seven years at an increased rental. The report urged the importance of an increase in the resident membership which had declined concurrently with the increase in the non-resident membership.

* *

An expert witness

A few weeks back, in the court of Babu Brojendraprasad M. A. B. L. the second Munsiff, Patna, Professor Jadunath Sarcar M.A.P.R.S. appeared as an expert witness to decipher a deed of gift inscribed on copper plate in old Sanskrit script, which purported to be executed in in the 11th century A. D.

* *

An Important

We be to draw the attention of our readers to the article headed "The Educationist in Southern India" which appeared in our last issue (May No. 2.) It is the first of a series intended to elevate the status and to improve the position of the teachers in general. We shall feel obliged if our readers and contemporaries kindly give us their valued opinions.

Compulsory Primary Education in a State

The state of Limbadi in Jhalawar a province of Kathiawar has been imparting free education to its subjects and has decided to make it Compulsory. Also the Durbar Saheb of Jasdan (Kathiawar) has ordered free education to be given in the Schools of the State from the beginning of the current month.

Punjab Veterinary College

Probably new Veterinary College for the Punjab will have to be built at Lahore, the site of the present college being required in connection with the King Edward Memorial scheme for the extension of the Medical College Hospital. It is understood that three sites are available for the new college.

* *

Lucknow Museum

The Provincial Museum which has been reopened at Lucknow will specialise in archæology, epigraphy and pneumismatics. The majority of the other collections have gone to the Canning College and artware specimens to the School of Arts. The Zoo-

logical collection is being reorganised by Mr. Dewar the well known ornithologist.

* * *

Amember for the Simla Educational Conference

The Rev. R. Rocksborough Smith has been selected as the non-official member of the Government of India Educational Conference to be held at Simla next July, to represent Burma.

* * *

European and Eurasion Educatnio

A Press Communique states "The Statement by the Hon. Mr. Montague to the effect that Rs. 3 lakhs had been allocated from the Durbar grant in response to the efforts made by the Committee in England of which Sir Robert Laidlaw is president, has been misunderstood. The grant is for European schools of all kinds and not only those represented by the Committee."

An anonymous friend of India has made a donation of £1,000 to the fund for Eurasian education.

THE COLLEGIAN

VOLUME ONE

CROWN QUARTO pp. 408

(From October 1911 to March 1912)

WITH AN INDEX.

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THE UNIVERSITIES.

CALCUTTA UNIVERSITY.

B. Sc. Examination Results 1912.

The Results of the B. Sc. Examination held in March-April 1912 are out. Below we give a tabulated list of the number of candidates passed from each College :—

	College.	Honours. I	Honours. II	Distinction.	Pass.	Total.
Calcutta.	Presidency	2	13	3	31	49
	ScottishChurches	1	2	7	12	22
	Bangabasi	—	—	2	11	13
	Metropolitan	—	—	—	8	8
	St. Xaviers	—	—	1	6	7
	City	—	—	1	1	2
Mufassil.	Dacca	—	6	2	11	19
	Berhampur	1	2	5	10	18
	Rajshahye	—	1	2	9	12
	Patna	1	1	2	4	8
	Krishnagar	—	—	1	1	2
	Gauhati	—	—	—	1	1
	Non-Coll	—	—	1	2	3
	Grand Total	5	25	27	107	164

I. Sc. Examination 1912, Results.

The tabulated list of candidates who passed the Intermediate Examination in Science 1912, is given below :—

	College.	1st Div.	2nd Div.	3rd Div.	Total.
Calcutta.	Presidency	29	16	2	47
	Scottish Churches	27	31	1	59
	City	15	27	7	49
	St. Xavier's	13	22	2	37
	Metropolitan	10	18	4	32
	Bangabasi	6	45	10	61
	Ripon	6	21	5	32
Mufassil.	Dacca	15	9	3	27
	Rajshahye	14	16	2	32
	Berhampur	11	25	2	38
	Hughli	9	13	—	22
	Patna	7	9	1	17
	Krishnagar	6	5	1	12
	Chittagong	6	1	—	7
	Cooch Behar	5	5	2	12
	Gauhati	5	6	—	11
	Jagannath (Dacca)	4	11	—	15
	Cuttack	4	4	—	8
	Behar National (Bankipur)	4	2	—	6
	Daulatpur	3	8	1	12
	Hazaribagh	2	1	1	4
	Uttarpara	2	2	—	4
	Bhagalpur	1	4	1	6
	Non-Coll	1	3	—	4
	Grand Total	205	304	45	554

I. A. Exam. 1912, Results.

The tabulated list of candidates who passed the Intermediate Examination in Arts 1912, is given below.

College.	1st Div.	2nd Div.	3rd Div.	To
Calcutta :—				
City	28	104	34	166
Metropolitan	32	58	20	110
Bangabasi	11	70	20	101
Ripon	21	60	7	88
Scottish Church	31	42	12	85
Presidency	18	28	5	51
St. Xaviers'	4	19	3	26
L. M. S	13	20	3	36
Central	5	19	5	29
C. M. S.	4	10	4	18
Bishop's	2	1	—	3
Bethune	3	6	—	9
Sanskrit	—	8	2	10
Diocesan	2	2	—	4
Mufassil :—				
Rajshahye	23	71	13	107
Berhampur	21	61	7	89
Dacca	23	48	8	79
Cuttack	18	36	8	62
Bankura	12	34	2	48
Daulatpur	10	36	12	58
Hazaribagh	8	16	1	25
Jagannath (Dacca)	10	47	20	77
Patna	13	18	1	32
Comilla	12	40	11	63
Rangoon	13	34	8	55
Chittagong	7	17	5	29
Gauhati	6	17	8	31
Barisal	8	33	7	48
Mymensingh	9	27	19	55
Bhagalpur	9	32	10	51
Cooch Behar	9	20	4	33
Hughli	5	12	2	19
B. N. (Bankipur)	9	27	11	47
Sylhet	7	16	4	27
Uttarpara	14	11	1	26
Muzaffarpur	7	13	4	24
Krishnagar	3	15	3	21
Burdwan	7	15	3	25
Midnapur	4	10	4	18
Narail	4	8	5	17
Pabna	6	9	3	18
Hetampur	4	8	1	13
Monghyr	1	1	—	2
Seerampore	—	2	—	2
Baptist (Rangoon)	5	7	1	13
Non-coll	9	17	10	36

Matric Results 1912

The results of the Matriculation Examination held in March, 1913 were gazetted on May 29, 1912. Total number of candidates passed is 5698 ; Out of these 2916 were placed in the first division 2387 in the second division and 395 in the third division.

Full Result of B. Sc. Exam 1912.

We give below the detailed results of the B. Sc. Exam., 1912 :-

HONOURS LIST.

Mathematics First Division :—Basu, Nalinimohan (Scottish Churches College.) Second Division :—(In order of merit). 1. Bandyopadhayay, Sudhansukumar (Presidency College). 2 Ray, Surendrakumar (Presidency College) 3 Sarkar, Bansorilal (Presidency College) 4 Nahata, Ganeshlal (Presidency College) 5 Datta, Bibhutibhushan (Scottish Churches College). 6 Saraswati, Krishnakumud (Presidency College). 7 Mukhopadhyay, Makhanlal (Presidency College). 8 De, Pramathanath (Patna College).

Physics. First Division :—(In order of merit). 1 Bandyopadhyay. Durgapada (Presidency College). 2 Chakrabarti, Binodlal (Presidency College). Second Division. (In order of merit). 1 Sen, Niradkanta (Scottish Churches College). 2 Mahalanabis, Prasantachandra(Presidency College), Misra, Narayan (Presidency College) 4 Chakrabarti, Kalidas (Krishnath College, Berhampur). 5 Chakrabarti, Mahadeb (Presidency College). 6 Ray, Manomohan (Dacca College).

CHEMISTRY.

First Division :—(In order of merit) 1 Ghosh, Jogendranath Patna College. 2 Basu, Harischandra Krishnath College, Berhampur. Second Division. (In order of merit). 1 De Rajendralal Rajshahi, College, Baulia. 2 Bhattacharyya, Debendranath Presidency College. 3 Ghosh, Upendranath Dacca College. 4 Nandi, Kunjabihari Dacca College 5 De, Jnanankur Presidency College. 6 Datta, Aswinikumar Dacca College. 7 Das, Narendranath Dacca College 8 Sarkar, Arabindu Dacca College 9 Dasgupta, Satyaranjan Krishnath College, Berhampur.

PHYSIOLOGY.

Second Division. Mitra, Khageschandra Presidency College.

GEOLOGY.

Second Division. De, Rajendranath Presidency College.

Passed with Distinction. (Arranged in Alphabetical order), Abdus Samad Khan Patna College Pandyopadhyay Dakshinaranjan Bangabasi College Bandyopadhyay Kaliprasad Scottish Churches College Chakrabarti, Jitendranath Presidency College Chakrabarti, Sureshchandra Rajshahi College, Baulia ; Chanda, Jatindranath Scottish Churches College, Das, Harihar Presidency College Das, Narendrakumar Krishnath College, Berhampur Das, Panchugopal Krishnagar College

(Continued in No. 2 June. along with B. A. Results. 1912.)

Text books for Intermediate Examination in Arts 1914.

ENGLISH.

Poetry : Wordsworth Selections to be compiled and published by the University, Gray's Elegy, Milton's L'Allegro, II Penseroso Cowper's Task, Book I. Prose : Froud—English Seamen of the Sixteenth Century, Lubbock—Peace and Happiness, Macaulay—Essay on Addison. A paper will be set on Essay, Prosody and Rhetoric, and some questions will be set on unseen passages from works of the same standard of difficulty as those prescribed for the Matriculation Examination.

VERNACULAR COMPOSITION.

BENGALI (Books recommended to be read as presenting models of style.) Iswarchandra Vidyasagar—Mahabharat, Anukramanika and Parbasangraha Adhyaya. Kaliprasanna Ghose—Prabhatchinta. Sasibhushan Sen—Karmakshetra. Haranath Basu—Lalit Prasanga, Hemchandra Bidyaratna—Nala charit. Jaladhar Sen—Himalaya.

HINDI. (Books recommended to be read as presenting models of style.) Harishchandra —Charitavali. Pratapnarayan Misra—Sangit Shakuntal. Gadadhar Singh—Kadambari. Lala Sitaram—Nitibatika.

ASSAMESE—(Books recommended to be read as presenting models of style). Selections from Katha Bhagavat—1 Brahmar Moha-nasa. 2 Samanta Harana. Selections from Jonaki —1 Jivaner Amiya. 2 Manava-mahatva. Selections from Usha.—1 Sarai Ghater Yuddha. 2 Dhana aru dhanar vyavahara. 3 Jivaner uddesya ki ?

BURMESE. (Books recommended to be read as presenting models of style.) 1 Maha-Janaka Jataka Vathu. 2 Vedura-Jataka Vathu 3 Sandakumara Jataka Vathu. 4 U. Ponya Myttaza. 5 Mahalankara Vathu. 6 Thamane Gyaw Loba Vathu.

URIYA. (Books recommended to be read as presenting models of style.) Charupath, Part III, translated by Bichhanda Patnaik. Ramsankar Ray—Bibasini. Sasibhusan Ray—Dakhinatya Bhraman. Adiparba of Mahabharata (Anukramanika and Parbasangrahadhyaya), translated by Gobinda Chundra Mahapatra.

URDU. (Books recommended to be read as presenting models of style.) 1. Naiangi Khayal by Azad. 2. Hayat-i Sadi. 3. Taubat-ul-Nusuh.

SANSKRIT.

Poetry : Raghuvansam Cantos I and II, with Mallinatha's Commentary. Bhattikavyam Cantos I and II. Prose : Mahabharatam and Dasa Kumaracharitam, expurgated edition by Pandit Tarakumar Kaviratna, pages 7-38 and 99-119.

BENGALI.

(For female candidates.)

Kaliprasanna Sinha Mahabharata (Nalopakhyan). Michael Madhsudan Datta Meghnad-badha Canto IV. Nabinchandra Das, Raghuvansa,Canto XIII. Akshaykumar Dutta Charupath, Part III. Tarasankar Tarkaratna Kadambari (expurgated edititon by Charuchandra Banerjee and Manilal Ganguli).

PALI

Anderson's Pali Reader. The course also includes a knowledge of Pali Grammar of higher standard than that required at the Matriculation Examination. Grammar recommended E. Muller : Pali Grammar, or, Satischandra Vidyabhushana's Kaccayana.

ARABIC.

University Selections compiled and edited by Dr. E. D. Ross, PH. D. Arabic Grammar : A book on Arabic Grammar to be published by the University for the Matriculation and Intermediate Examinations.

PERSIAN.

University Selections compiled and edited by Dr. E. D. Ross, PH. D.

CLASSICAL ARMENIAN.

Prose. Moses of Khoren's History of Armenia, Part II. Poetry : Elishe Vardapiet Doorian's Course of Classical Armenian, Part II. The course also includes Armenian Grammar, of which a fuller knowledge will be required than at the Matriculation Examination.

GREEK.

Herodotus Book VII. Plato—Crito. Homer —Odyssey, Books V and VI.

LATIN

Cicero—Orations against Catiline, I and II.

Livy Book XXI, Horace—Odes, Books III and IV.

FRENCH.

Erckmann—Chatrian—Histoire d'un Conscrit, Ed. by Roper. Berthon—Modern French Verse.

GERMAN.

O. Elster—Zwishchen den Schlachten, Schiller—Selections from Lyrical Poems, ed. by Turner and Morshead (Macmillan). The course also includes German Grammar.

HISTORY.

The following books are recommended :—

Tout's Advanced History of Great Britain, A.D. Innes, History of England, Gardiner's Student's History of England, Bury's History of Greece for Beginners (*N. B.*—This book comes down only to 322 B.C.), Smith's Smaller History of Greece revised by Marindin,Smith's Smaller History of Rome revised by Greenidge, Shuckburgh's History of Rome for Beginners, Merivale and Puller's School History of Rome (only the portion from Actium to the end).

LOGIC.

The subject of Logic is to be studied as defined by the syllabus. Students are recommended to use one or more of the following books, or select portions thereof, with special reference to the course laid down in the syllabus :—Carveth Read—Logic, Deductive and Inductive, Bain—Logic (Deduction and Induction), Welton—Logic Vol. II. Prakashchandra Sinha—Tarka Vignan. Preparatory Reading—Students are advised to read—Minto's Logic before joining the regular class.

The following books are recommended for the guidance of teachers :—Hamilton Lectures on Logic, Mill System of Logic, Jevons Principles of Science, Bradley Principles of Science, Bosanquet Logic, Sigwart Logic, Ueberweg System of Logic and History of Logical Doctrines, Venn Empirical Logic, Keynes Formal Logic.

MATHEMATICS.

No text-books are prescribed. The subject is to be taught in accordance with the syllabus prescribed in the Regulations. The following books are recommended :—Asutosh Mukhopadhyay Geometry of Conics, Jessop and Havelock Elementary Mechanics, D. N. Mallik Elementary Dynamics.

GEOGRAPHY.

A. J. Herbertson—The Oxford Geographies, Vol. III. Ellis W. Heaton's The World. J.B. Reynolds—Europe. W.H. Arden Wood—General Geography for Indian Students. H R. Mill—The Realm of Nature. Simons & Richardson—Introduction to Practical Geography. G. James Morrison—Maps, their uses and construction. W. A. Elderton—Maps and Map-drawing.

PHYSICS.

Millikan and Gale—A First Course in Physics (Ginn & Co., New York and London). Glazebrook—Heat, Glazebrook—Light, (Cambridge Physical Series.) Hadley—Magnetism and Electricity for Beginners. Watson—Elementary Practical Physics. Rajani Kanta De—Intermediate Course of Practical Physics.

CHEMISTRY.

W. A. Shenstone—Inorganic Chemistry. Perkin and Lean—Introduction to the Study of Chemistry. Donington—Practical Exercises in Chemistry. H. E. Stapleton—Introduction to Practical Chemistry. P.C. Ray—Elementary Inorganic Chemistry. Bailey First Stage in Inorganic Chemistry. P. C. Ray Practical Inorganic Chemistry. Haridas Saha and Kumudnath Chaudhuri—A Course of Practical Chemistry for Intermediate Students.

PHYSIOLOGY.

Hill—Manual of Human Physiology.

BOTANY.

Farmer, J.B.—Practical Introduction to the Study of Botany (London, 1905). Bailey, L. H.—Botany, An Elementary Text for Schools (New York, 1901.) Darwin, F.—Elements of Botany (Cambridge, latest edition). Candidates who take up Botany will be required to possess a special knowledge of the following Natural Orders of plants :—(1) Cruciferae. (2) Malvaceae. (3) Rhamnaceae or Sapindaceae. (4) Leguminosae. (5) Cucurbitaceae. (6) Rubiaceae. (7) Compositae. (8) Solanaceae. (9) Labiatae. (10) Amarantaceae. (11) Commelynaceae. (12) Gramineae. At the Intermediate Examinations in Arts and Science a study of the outline of the life history of the following "Selected plants" is required to illustrate the gradual ascent in complexity of structure and reproductive cycle from the lowest fungi and algae to the phanerogams :—(1) Yeast. (2) Mucor or Euroteum. (3)

Spirogyra. (4) A Moss. (5) A Fern. (6) A Conifer. (7) A Monocotyledon. (8) A Dicotyledon.

ZOOLOGY.

J. Arthur Thomson—Outlines of Zoology (such portions of it as are required in the Syllabus). R. E. Lloyd—An Introduction to Biology for Students in India.

Text books for the Intermediate Examination in Science 1914.

All same as in the I. A. except the following:—

BENGALI.—(Books recommended to be read as presenting models of style.) Haranchandra Rakshit—Banga Sahitye Bankim. Jogendra nath Basu—Life of Machael Madhusudan Dutt (smaller edition). Ramendra Sundar Tribedi—Prakriti. Pramatha Nath Tarkabhushan—Sakyasinha. Jogendranath Chatterji—Srimanta Saodagar. Saratchandra Bidyaratna—Bhisma.

Text books for B. A. Examination 1914.

ENGLISH

Pass Course.—Shakespear—A Midsummer Night's Dream, Henry V. Hales Longer English Poems—Dryden, Pope, Johnson, Cowper, Keats. Milton Paradise Lost, Books X, XI and XII. Cowper Letters (Golden Treasury Edition). Carlyle Heroes and Hero-worship. George Eliot Silas Marner.

Honours Course.—In addition to the books prescribed for the Pass Course. Shakespeare Tempest. Keats Hyperion. Selections from Wordsworth by Matthew Arnold (Golden Treasury Series). Matthew Arnold Essays in Criticism, Second Series. Burke Speeches on American Taxation and Conciliation with the Colonies (Burke's Selected Works edited by Payne, Vol. 1). The following books are recommended for the study of the Philology of the English Language and the History of English Literature:—Lounsbury History of the English Language. Latham Handbook of the English Language. Thomson Students' English Literature, founded upon the Manual of Thomas B. Shaw. Saintsbury: Short History of English Literature.

The following books are prescribed for candidates who take up the alternative paper in English:—

Carlyle: Past and Present. Pater: Appreciations.

VERNACULAR COMPOSITION.

BENGALI.—(Books recommended to be read as presenting ideals of character and models of style.)—Bankim Chandra Chatterji: Kapalkundala. Chandicharan Banerjee: Life of Vidyasagar. Rajendranath Bidyabhushan: Srikantha.

HINDI. (Books recommended to be read as presenting ideals of character and models of style.) Harischandra—Mudra Rakshas. Pratapnarayan Misa,—Sachal Siksha. Gangaprasad Agnihotri—Nibandhmalanarh.

ASSAMESE.—Books recommended to be read as presenting ideals of character and models of style.) Selections from Katha Bhagavat. 1. Sri Krishner Janma. 2. Kalivadamana—3. Varsha aru Sarat Varnana. Selections from Jonaki.—1. Samsara pravaha. 2. Atma-Samyama. 3. Sakuntala, by Lambodar Bora (the whole).

BURMESE.—(Books recommended to be read as presenting ideals of character and models of style.)—Buridat Zat; Narada Zat; Zinatthapakathani.

URIYA.—(Books recommended to be read as presenting ideals of character and models of style.)—Radhanath Ray Mahajatra, Cantos I—IV. Raghuvansa, translated by Bichhanda Patnaik.

URDU, 1913 AND 1914.—(Books to be read as presenting models of style and ideals of character.)—1. Ab-i-Hayat. 2. Nazm-i-Muntakhab. 3. Musadas-i-Hali.

SANSKRIT.

Pass Course.—(Poetry). Manusamhita Chapter II with Kulluka's Commentary. Kiratarjuniyams: Cantos I and II with Mallinatha'sCommentary. Drama.—Abhijnana Sakuntalam; Uttara Ramacharitam; History of Sanskrit Literature as in Macdonell (omitting Chapters II—IX).

Honours Course.—(In addition to the Books prescribed for the Pass Course.) Poetry —Bhattikavyam: Cantos XII and XIII. Kadambari: Pages 102 to 124, Bombay Edition, commencing with "তাতঃ চন্দ্রপীড়" to "অচ্ছোদং নাম সরোদৃষ্টবান্"। Rigveda Samhita Hymns from Rigveda, with Sayana's Commentary, edited by Peterson, Part I, Suktas I—12. Grammar and Rhetoric.—Siddhanta Kaumudi—Karaka and Samasa; Dandi—Kavyadaras; Sahitya Darpan, Chapter VI.

PALI.

Pass Course.—(Poetry)—Dhamapada; Khuddaka Patha. (Prose)—Milanda-Panha (Trencker's edition), pages 1—216. Dhammapada—Attha Katha, Vol. I, edited by Mr. Norman in the P.T.S. Grammar.—Rupasiddhi (Rangoon or Colombo Edition). Kielhorn's Sanskrit Grammar. Comparative Philology—Peile's Primer of Philology.

Honours Course—(In addition to the books prescribed for the Pass Course). Mahavamsa Chapters 1—5. Dighanikaya Mahagovinda Sutta, Mahaparinabana Sutta, Rhys Davids Buddhist India.

ARABIC.

Pass Course—University Selections to be compiled and edited by Lt.-Col. D. C. Phillott I. A, Grammar—Arabic Grammar according to modern method to be published by the University. Honours Course—(In addition to the books prescribed for the Pass Course). University Selections to be compiled and edited by Lt.-Col. D. C. Phillott, I. A. The The Honours Course in Arabic also includes the elements of Arabic Prosody and Rhetoric, the outlines of Mahomedan history down to the fall of the Abbasid Caliphate; and a general knowledge of Arabic literature.

PERSIAN.

Pass Course—University Selections to be compiled and edited by Lt.-Col. D.C. Phillott, I. A. The Pass Course includes the elements of Persian Prosody and Rhetoric and a knowledge of Arabic Grammar up to the Intermediate standard. Honours Course—(In addition to the books prescribed for the Pass Course). University Selections to be compiled and edited by Lt.-Col. D. C. Phillott, I. A. The Honours Course includes the outlines of Mahomedan history in so far as it relates to Persia Central Asia and India and the History of Persian literature.

CLASSICAL ARMENIAN.

Pass Course.—Poetry. Bagratoonie's translation of Paradise Lost, Books IX, X, XI and XII. Prose. Agathangalo's History, Parts I and III. Meses of Khoren's History. The course includes the History of Armenia.

Honours Course.—(In addition to the books prescribed for the Pass Course.) Poetry. Bagratoonie's Haik Dientsazo, Books I, II, III, IV and V. Prose. John Cathalicas Elishe. The course includes the History of Armenian Literature and the Elements of Armenian Philology.

GREEK.

Pass Course.—Homer Odyssy, Books I and II. Sophocles Ajax. Plato—Phædo. Demosthenes Philippics, I, II, and III.

Honours Course.—(In addition to the books prescribed for the Pass Course). Æschylus Prometheous; Aristophanes Birds Thucydides Book I, Chapters 1—80. Permanent Subjects.—The following books may be consulted:—Philology of the Greek Language—Giles Comparative Philology; History of Classical Greek Literature. Murray Greek Literature.

LATIN.

Pass Course.—Cicero Pro Muraena. Livy Book I. Virgil Georgis, Book II. Horace Ars Poetica.

Honours Course.—(In addition to the books prescribed for the Pass Course.)—Lucretius Book V.; Terence Andria; Cicero Letters (Tyrrell's Selections); Tacitus Histories, Book I. Permanent Subjects.—The following books may be consulted.

Philology of the Latin Language—Lindsay Historical Latin Grammar; History of Latin Literature to the end of the Augustan Period—Mackail Latin Literature.

FRENCH.

Pass Course.—De Vigny Cinq Mars. Thierry Litters sur Phistoire de France, edited by Masson and Prothero. Racine Britannicus. Rostand L'Aiglon. The course also includes French Grammar and the outlines of French History.

Honours Course.—(In addition to the books prescribed for the Pass Course.) Corneille Cid. Moliere L'Avare. Victor Hugo Hernani. The course also includes French Grammar and the outlines of French

History and also the elements of French Literature.

Grammar Recommended.—V. de Vavas Grammaire des Grammairey. Text-book in French Philology recommended:—Darmesteter Historical French Grammar Historique de la langue Francaise. The period of French Literature selected for 1914 is the 17th century.

GERMAN.

Pass Course.—Freytag Die Ahnen. Schiller Wilhelm Tell. The course includes, in addition to the prescribed texts, Grammar and the outlines of German History.

Honours Course.—(In addition to the books prescribed for the Pass Course.) Gœthe Iphigenie auf Tauris. Freytag Soll und Haben. The course includes, in addition to the prescribed texts, Grammar and the outlines of German History and also the elements of German Philology and the History of a selected period of German Literature.

Grammar recommended.—J. Wright Historical German Grammar. The period selected for 1914 is 1750—1832.

HISTORY.

Pass Course.—Paper I. Lodge—Modern Europe. Paper II. Period—the Reign of Queen Victoria. Low and Sanders: The History of England during the reign of Victoria, 1837—1901. Paper III. Elphinstone History of India Smith Early History of India. A. D. Innes History of British India.

Honours Course.—(In addition to the books prescribed for the Pass Course.) Paper IV. Period from 479—404 B.C. Bury History of Greece; Holm History of Greece. Grote History of Greece. Paper V. Period from 264—146 B. C. Shuckburgh History of Rome. Mommsen History of Rome, translated by Dickson. Paper VI. Hallam Europe during the Middle Ages. Myers History of the Middle Ages.

POLITICAL ECONOMY AND POLITICAL PHILOSOPHY.

Books recommended for the guidance of students:—

POLITICAL ECONOMY.

Pass Course.—Paper I. Marshal Economics of Industry. R. T. Ely Outlines of Economics [Revised and Enlarged by Ely, Adams, Lorezn and Young (Macmillan)]. Guide Principles of Political Economy.

Honours Course. Paper IV. (In addition to the books recommended for the Pass Course.) Flux Economic Principles, H. R. Seager Introduction to Economics.

POLITICAL PHILOSOPHY.

Pass Course.—Paper II. Leacock Elements of Political Science. Bluntshli Theory of the State. Woodrow Wilson The State, Courtney Working Constitution of England. Pass Course.—Paper III. (Application of the Principles of Political Economy to Indian Topics.) Imperial Gazetteer Vol. III. (Economic). Report of the Indian Currency Committee (1898)—C9390 of 1896. East India Currency Correspondence respecting the proposals on Currency made by the Government of India —C8840 of 1904. January 1902. T. Morrison Industrial Organisation of an Indian Province.

Honours Course.—Paper V. (In addition to the books recommended for the Pass Course.) Specially selected text—Aristole Politics (translated by Weldon or Jomett). Hobbes Levaithan.

Books recommended for the guidance of teachers—Mill Political Economy. Nicholson Principles of Political Economy. Sidgwick Development of European Polity. Sidgwick Elements of Polities. Marshall Principles of Economics. Pollock Introduction to the History of the Science of politics. Ranade Essays on Indian Economics. Baden-Powell Land Systems of British India. R. C. Dutt India in the Victorian Age. R. C. Dutt The Economic History of India under Early British Rule. Bryce American Commonwealth (for the Constitution of the United States). Strachey India. A. Lawrence Lowell Governments and Parties in Continental Europe (two vols.), Longmans, Green & Co. J. A. R. Marriott English Political Institutions. Pierson Principles of Economics. Carver Distribution of Wealth. Palgrave Dictionary of Political Economy. Barker Political Thoughts of Plato and Aristotle. Review of the Trade of India (annual) by the Director-General of Commercial Intelligence.

MENTAL AND MORAL PHILOSOPHY.

The following books are recommended to be used in studying the subject of Mental and

Moral Philosophy as defined by the Syllabus :—

PSYCHOLOGY—(Pass and Honours)—Hoffding Outlines of Psychology. Wundt Human and Animal Psychology. Stout Manual of Psychology. James Text-book of Psychology.

Preparatory Reading—Students are advised to read—Kitchener Primer of Psychology, before joining the regular class.

ETHICS—(Pass and Honours)—Seth Study of Ethical Principles. Martineau Types of Ethical Theory. Mackenzie Manual of Ethics. Mill Utilitarianism,

Preparatory Reading—Students are advised to read—Muirhead Elements of Ethics, Mohit Chandra Sen Elements of Moral Philosophy, before joining the regular class.

GENERAL PHILPOSOHY.—(Pass and Honours)—Kulpe Introduction to Philosophy. Marvin Introduction to Philosophy. Paulsen Introduction to Philosophy.

NATURAL THEOLOGY.—(Honours)—Martineau Study of Religion. Flint Theism, and Antitheistic Theories.

Preparatory Reading—Students are advised to read—Knight Aspects of Theism. or Armstrong God and the Soul, before joining the regular class.

HISTORY OF PHILOSOPHY—(Honours)—The following books are recommended :—Weber History of Philosophy. Falckenberg History of Modern Philosophy. Knight Hume (Blackwood's Philosophical Classics). Fraser Berkeley (Do)

Preparatory Reading—Schwegler History of Philosophy.

SPECIAL TEXT—(Honours)—Fraser Selections from Berkeley (Principles of Human knowledge and Essay towards a New Theory of Vision only).

Thefollowing books are recommended for the guidance of teachers :—

PSYCHOLOGY—James Principles of Psychology. Ward Psychology (Art. in the Encyclopaedia Britannica). Ladd Elements of Physiological Psychology. Herbert Spencer Principles of Psychology. Bain Senses and the Intellect. Bain Emotions and the Will. Sully Human Mind. Wundt Outlines of Psychology.

ETHICS—Green Prolegomena to Ethics. Sidgwick Methods of Ethics. Wundt Ethics. Leslie Stephen Science of Ethics. Janet Theory of Morals. Paulsen System of Ethics. Abbot Kant's Theory of Ethics. Sidgwick History of Ethics. Alexander Moral Order and Progress.

GENERAL PHILOSOPHY AND NATURAL THEOLOGY—Green Prolegomena to Ethics. Bradley Appearence and Reality. E. Caird Critical Philosophy of Kant. Sidgwick Philosophy of Kant and other Lectures. Sidgwick Philosophy, its Scope and Relations. Herbert Spencer First Principles. Hegel Philosophy of Mind (Wallace). Hegel Philosophy of Right (Dyde). Lotze Metaphysics. Pfleiderer : Philosophy of Religion. Caird Introduction to the Philosophy of Religion. W. G. Ward Philosophy of Theism. Janet Final Causes. Hegel Philosophy of Religion (Spiers and Senderson). Lotze Outlines of the Philosophy of Religion. E. Caird Evolution of Religion. James Varieties of Religious Experience.

HISTORY OF PHILOSOPHY—Ueberweg History of Philosophy. Erdmann History of Philosophy. Leslie Stephen English Thought in the Eighteenth Century.

Mathematics, Physics, Chemistry, Physiology, Botany and Zoology—Same as in B.SC.

Text books for B. Sc, Examination 1914.

MATHEMATICS.

PASS COURSE. The following books are recommended :—1. Higher Plane Trigonometry—Todhunter's Plane Trigonometry, edited by Hogg. 2. Plane Analytical Geometry—Loney's Elements of Co ordinate Geometry. C. Smith's Elementary Treatise on Conic Sections. 3. Differential Calculus - Edwards, Differential Calculus for Beginners or Ganesh Prasad's Differential Calculus, 4. Integral Calculus and Differential Equations—Edwards, Integral Calculus for Beginners. Taylor's The Differential and Integral Calculus and Differential Equations. Ganesh Prasad's Integral Calculus. 4. Hydrostatics—Besant's Elementary Hydrostatics. Loney's Elements of Hydrostatics. 5. Astronomy—Parker's Elements of Astronomy.

HONOURS COURSE.—1. Higher Algebra—Hall and Knight's Higher Algebra. C. Smith's A Treatise on Algebra. 2. Elementary Theory of Equations—Cajori's Introduction to Theory of Equations, Chapter I—VII. 3. Higher Plane Trigonometry—Todhunter's Plane Trigonometry, edited by Hogg. 4. Plane Analytical Geometry—Loney's Elements of Co-ordinate Geometry. C. Smith's Elementary Treatise on Conic Sections. Salmon Conic Sections. 5. Elementary Solid Geometry—C. Smith, Elementary treatise on Solid Geometry. 6 Elementary Principles of Vectors—Kelland and Tait, Introduction to Quaternions, 3rd Edition, edited by Knott. Henrici and Turner, Vectors and Rotors. 7 Differential Calculus—Williamson, Differential Calculus. 8 Integral Calculus and Differential Equations—Williamson, Integral Calculus. Murray, Introductory Course in Differential Equations. 9 Statics—Minchin, Statics, Volume I. Jeans, Theoretical Mechanics. 10 Dynamics of a Particle—Loney, Dynamics of a Particle. Jeans, Theoretical Mechanics. Cox, Mechanics. 11 Hydrostatics—Besant, Elementary Hydrostatics. Loney, Elements of Hydrostatics. 12 Astronomy—Parker, Elements of Astronomy. Young, Manual of Astronomy.

N.B.—Candidates who take up Mathematics at the B.A. or B.Sc. Examination are recommended to refer to Saxelby's Practical Mathematics. Candidates who take up Honours in Mathematics at the B.A. or B.Sc. Examination are recommended to refer to Cox's Mechanics.

PHYSICS.

PASS COURSE—Watson, A Text-book of Physics. Hadley, Magnetism and Electricity for Students. Pass Practical—Watson, A Text-book of Practical Physics. Harrison, A Course of Practical Physics.

HONOURS COURSE—(In addition to the books prescribed for the Pass Course)—Poynting and Thomson, Sound. Edser, Heat for Advanced Students. Maxwell, Theory of Heat. Edser, Light for Students. Foster and Porter, Elementary Treatise on Electricity and Magnetism. Henderson, Practical Physics.

Book recommended for consultation—Planck, Treatise on Thermodynamics.

N.B.—Candidates who take up the Honours Course in Physics at the B.A. or B.Sc. Examination are recommended to refer to Saxelby's Practical Mathematics.

CHEMISTRY.

PASS COURSE—Van Deventer, Physical Chemistry for Beginners. Newth, Inorganic Chemistry. Holleman, Inorganic Chemistry. Holleman, Organic Chemistry. Ira Remsen, Organic Chemistry. J. Wade, Introduction to the Study of Organic Chemistry. Gooch and Walker, Outlines of Inorganic Chemistry. Francis Jones, Practical Chemistry. Alexander Smith, General Inorganic Chemistry. F. Mollwo Perkin, Qualitative Chemical Analysis—Organic and Inorganic. Clowes and Coleman, Quantitative Analysis. J. B. Cohen, Theoretical Organic Chemistry.

HONOURS COURSE—(In addition to the books rscommended for the Pass Course). H.C. Jones, Elements of Physical Chemistry. Ostwald, Foundations of Analytical Chemistry. Valentine and Hodgkinson, Practical Chemistry. Cohen, Practical Organic Chemistry. Caven and Landor, Systematic Inorganic Chemistry. Ostwald, Outlines of General Chemistry. J. Walker, Introduction to Physical Chemistry.

N.B.—Candidates who take up Chemistry at the B. A. or B. Sc. Examination are recommended to refer to Saxelby's Practical Mathematics.

BOTANY.

PASS COURSE.—Vines, S. H. An Elementary Text-Book of Botany (London, 1905). Scott, D. H. Structural Botany, 2 Vols. London, 1904-06. Darwin, F., and Acton, G. H. Practical Physiology of Plants (Cambridge, latest edition). Prain, D. Bengal Plants (Calcutta, 1903) or Roxburgh Flora, Indica, edited by C. B. Clarke (Calcutta, 1874. HONOURS COURSE—(In addition to the text-books for the Pass Course). Strasburger E. Text-book of Botany, translated by Porter, revised by Lang (Third Edition, London) Reynolds Green, J. Vegetable Physiology (London, 1900). Schimper, A. F. W. Geography of Plants (Oxford, 1903) The following books are recommended for the guidance of teachers:—Bower, Practical Botany, 1902. Strasburger and Hillhouse, Practical Botany, 7th Edition, 1911.

ZOOLOGY.

Pass Course—Boas, Text-book of Zoology. Shipley and McBride, Zoology. Oscar Hertiwg and H. J. Campbell, The Cell. R. E. Lloyd An introduction to Biology for Students in, India. P. J. Parker and W. N. Parker, An

Elementary Course of Practical Zoology. Foster and Balfour, The Elements of Embryology (edited by Sedgwick and W. Heape) Wallace—Darwinism. Honours Course—(In addition to the books prescribed for the Pass Course). Miall and Hammond, The Structure and Life-history of the Herlequin Fly. Miall and Denny, The Cockroach.

PHYSIOLOGY.

Pass Course - Starling, Elements of Human Physiology (latest edition). Practical—Schafer, Essentials of Histiology and either Halliburton's Essentials of Chemical Physiology, Brodie's Essentials of Experimental Physiology or Beddard, Edkins, Hill, Pembrey and Macleod; Practical Physiology. Honours Course—Hall burton Handbook of Physiology. Stewart. Manual of Physiology. Howell, Text-book of Physiology. Practical, The same as for the Pass Course.

Syllabus in Experimental Physiology.—

Pass Course—The induction coil; single shocks; short circuiting key; effect of single shocks on the tongue; break-shock is stronger than the make-shock. Helmholtz's Modification; Neef's Hammer. Pithiing a frog; nerve-muscle preparation. Mechanical, chemical, thermal and electrical stimulation of muscle and nerve. The Graphic method: Simple lever; crank lever (myograph); moist chamber. Minimal and maximal excitation with single induction shocks (make and break). Stimulation by constant current: contraction of muscle only at make and break. The muscle curve:—Single contraction of a frog's muscle; the latent period, the period of contraction and the period of relaxation. Time-tracing by tuningfork. Method of after-loading. The influence of temperature and of load on muscular contraction. The work performed by a muscle during a twitch. Elasticity and extensibility of muscle. Summation of muscular contraction: tetanus. Fatigue of muscle. Thickening of muscle on contraction. Bernard's curare experiment. Stimulation of a mortor nerve; unequal excitability (greater nearer the centre of a mortor nerve); excitability of flexor and extensor nerves. Velocity of nerve-impulse (myographic method). Electro-Physiology:—Galvani's experiment of contraction with metals; Glavadi's experiment of contraction without metals. The Frog's heart:—Beating of the heart; effect of heat and cold (heart *in situ*); section of the heart; effect of heat and cold on excised heart. Stannius' experiment. Graphic record of the beat of the heart (suspension method and also direct registration with heart-lever). Pulse—Sphygmographic tracing. Blood-pressure in man: Sphygmometer (Hill and Bernard's). Reflex action (simple experiments on a pithed frog). Vision:—Accommodation; Scheiner's experiment; near and far point. Purkinge-Sanson's images: Phakoscope; Blind spot; yellow spot; Colour vision; Complementary colours.

Honours—Additional Experiments—The Induction Coil—Break extra-current of Faraday. The Rheonome: Effect of sudden variation of current. Isotonic and Isometric contraction. Influence of veratrine on muscular contraction. Indefatigability of nerve. Excitation of muscle by constant current: Polar excitation of a muscle. Electrotonus. Electrotonic changes in excitability and conductivity of a nerve. Kuhne's experiment of contraction without metals. Examination of currents in muscle, nerve and heart by means of the reflecting galvanometer.

Frog's heart—Minimal stimulus causes maximal contraction. "Staircase effect." Single contraction of the ventricle. Tetanisation. Refractory period. Stimulation of the vagus. Action of drugs (Muscarin and Atropin) on the heart.

Voice and Speech: Laryngoscope. Vision: Ophthalmoscope; Perimeter.

BOMBAY UNIVERSITY.

Exam. Dates.

The first and second examinations in Law will be held on the 17th, 18th, 20th, 24th and 25th June respectively between the hours 10-30 to 1-30 A.M. and 2-30 to 5-30 P.M. The final M. B. B. S, and L. M. & S. Examinations will also be held on the above dates. The Practical and clinical examinations will be held on days to be notified by the Examiners.

Examiners

The following gentlemen will conduct the Examinations: *First LL. B. Exam*:—R. K. Tarachand Esqr. Sitaram S. Patkar Esqr. and A. A. Chitre Esqr. *Second LL. B. Exam*:—T. M. Kajiji Esqr., J. R. Ghurpure Esqr., and S. S. Ranguckar Esqr.

Final M. B. B. S. Exam. Part I. :—N. F. Surveyor Esqr. and Lt. Col. L. F. Childe(Medicine and Therapeutics); B. E. Ghasvala Esqr. and Major E.F. Gordon Tucker (Medical Jurisprudence and Mental Diseases); Lt. Col C. H. L. Meyer and R. Row Esqr. (General Pathalogy and Bacteriology); Major L. T. R. Hutchinson (Hygiene). *Final M. B. B. S. Exam. Part II.* :—Lt. Col. A. Street and B. H. Nanavatty Esqr. (Surgery); Major A. W. Tuke and N. A. Parandare Esqr. (Midwifery, Diseases of Women and Children); Major G. Macpherson (Opthalmology). *L. M. & S. Exam* :—A. G. Viegas Esqr. and Captain William D. H. Stevenson (Medicine and Pathalogy); Major T. S. Novis and H. I. Jan Mahomed (Surgery); H. N. Anklesaria Esqr. and Major A. W. Tuke (Midwifery and Diseases of Women and children); Major L. T. R. Hutchinson and B. E. Ghasvala Esqr. (Medical Jurisprudence, Hygiene and Practical Toxicology).

Change in Regulations

It is hereby notified that the Senate has, with the sanction of the Government, made the following alteration in Regulation 1 in Engineering :—All the words after the word 'must' in line 1 regulation 1 in Engineering (Page 118 of the Calendar for 1911-12) have been deleted and the following substituted instead : "produce a certificate signed by the Principal of an affiliated Arts College to the effect that he has satisfactorily carried out at such College the work appointed by the University for the first year after Matriculation or have passed the Previous Examination of this University, or have passed an examination in some University recognized by this University which is considered by the Syndicate at least equivalent to the Previous Examination of this University."

PUNJAB UNIVERSITY.

Exam. Dates

The First Examination in Law and the LL. B. Examination commence from Tuesday the 4th June to Tuesday the 11th June between the hours 8 and 11 A.M. The B. T. Examination also begins from Tuesday the 4th June and lasts up to Saturday 8th June 1912.

ALLAHABAD UNIVERSITY.

New Senate Hall

The new Senate Hall of Allahabad University the erection of which is now nearing completion is to be opened about the end of July or the beginning of August.

Election of Fellows by Registered Graduates

1. As soon as possible after the 30th of June in each year, the Registrar shall report to the Chancellor the number of vacancies among ordinary fellows elected under section 6 (2) (*a*) of the Indian Universities Act, 1904, which have already occurred, or which will occur in course of the calendar year. The registrar shall also communicate the said information to each registered graduate resident in India.

2. Once in every year on such date as the Chancellor may appoint in this behalf, there shall, if necessary, be an election to fill any vacancy among the ordinary fellows to be elected by registered graduates.

3. As soon as the Chancellor has fixed the date for the election of ordinary fellows under section 6 (2) (*a*) of the Indian Universities Act, 1904, the registrar shall circulate a notice to every registered graduate resident in India, stating the number of vacancies, and that candidates may be nominated for election within a time to be named in the notice. Such time shall be not less than a fortnight from the date of the issue of the notice.

4. Within the said time any registered graduate may propose a candidate for election as an ordinary fellow. The proposal must be seconded by another registered graduate, and shall be deposited in the office of the registrar before the expiry of the time fixed in the notice issued under rule 3. Each registered graduate shall be entitled to nominate as many candidates for election as there are vacancies. In the nomination from the proposer

will be required to state that the candidate is willing to serve as a fellow.

5. On the expiration of the period fixed by the notice, the registrar shall, after scrutiny of the nominations received, prepare and send to every registered graduate resident in India, a list of candidates duly nominated, together with a voting paper, and shall also specify the time within which votes must be deposited with him.

6. The voting paper must be signed by the voter and shall be placed in a sealed cover superscribed 'voting paper for the election of ordinary fellows by registered graduate', and either delivered in person to the registrar at the University office, or sent by registered post to him. The voting paper must reach the registrar before the expiry of the time fixed within which votes will be received.

7. The registrar shall deposit all covers containing voting papers in a safe in his office, until the time fixed by the syndicate for opening them, and for scrutinising and counting the votes.

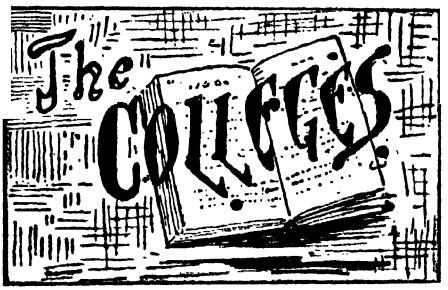
8. The Syndicate shall appoint two members of the Senate to act with the registrar in the scrutiny and counting of the votes.

9. At the time fixed for opening the covers of the voting papers, the covers shall be opened by the registrar in the presence of the said members, and the voting papers shall then be duly scrutinised.

10. Every registered graduate whose name is on the register shall be entitled to vote. Each voter shall be entitled to as many votes as there are vacancies, but he shall not record more than one vote for any one of the candidates. If more than one vote be recorded by a voter for the same candidate, such votes shall be reckoned as one vote. If the voter records more votes than the number of vacancies, his vote shall be cancelled. The decision of the registrar and two members of the Senate appointed to act with him shall be final as to the validity of any votes recorded. In case of difference of opinion between them, the decision shall be in accordance with the opinion of the majority.

11. After the scrutiny is completed and the votes have been counted, a statement shall be prepared for submission to the Chancellor, showing the number of votes received by each candidate. Such statement shall be signed by the registrar and the said two members of the Senate. Subject to the Chancellor's approval, candidates who have received the largest number of votes shall be deemed to be elected up to the number of vacancies available. In the event of two or more candidates obtaining an equal number of votes, the Chancellor shall decide which of them shall be deemed to be elected.

12. The voting papers shall be preserved in the registrar's office after the election, till such times as the Syndicate may direct.



AND SCHOOLS.

Patna College Bankipur

Mr. E. A. Horne, Professer of English, Patna College, has been appointed to act as Inspector of Schools, Patna Division Mr. Horne was very popular with the students, as he had a sympathetic interest in the welfare of his students.

B.N. College Bankipur

The Bihar National College, Bankipore has got a grant of Rs. 35,000 for the building of a Hostel for its students. The governing body of the College has selected the compound to the North-West of the College as the most suitable site. We understand that the B.N. College Committee has requested the new

Director of Public Instruction Behar and Orissa, to grant Rs. 25,000 more so as to enable the College to acquire the Female Hospital which is just to the west of the College. We trust the government will be pleased to sanction the amount prayed for.

A high School in the Gaya District

The residents of the Nawadah subdivision in the district of Gaya collected about Rs. 20,000 in connection with the Coronation of Their Imperial Majesties' Visit to India. It was decided that the memorial should take the form of a High English School, for which a sum of Rs. 40,000 is needed. The public of Nawadah have submitted to the Inspector of Schools, Patna Division for a grant of Rs. 12,000 out of the allotments made for secondary education in Bihar. The Sub.Divisional officer of Nawadah and the District Magistrate of Gaya have supported the application, which, we hope, will receive favourable consideration from Mr. Horne, the present Inspector of Schools, Patna Division.

La Martiniere School Calcutta.

A special scholarship of Rs. 15 a month is granted to Frank Mallittee, tenable for one year at La Martiniere School, Calcutta, subject to the usual condition of good conduct and satisfactory progrees. The scholarship will take effect from the 1st May, 1912.

Bhavanagar

On Tuesday the 14th inst. a public lecture was delivered by Prof. J. C. Swaminarayana of the Gujrat College Ahmedabad in the Library Hall of the Alfred High School Bhavanagar on "The Ashramas of old and duties thereof" before a large gathering of High School and College Students and some outsiders. Mr. P. D. Pattani C.I.E. the Dewan, of Bhavanagar presided. The lecturer began with a history and the division of the Ashramas and dwelt at great length upon the first of them viz. the Brahmacharyashrama, the whole interest centering round the system of education prevailing on those times. After comparing the ancient and the modern systems he pointed out the defects of the modern one lacking as it was in the teaching of morality and religion. An elaborate explanation of the duties and functions of the other three ashrams brought the subject to a conclusion. The chairman then standing up referred to some of the important points and spoke in eulogistic terms of the abilities of the lecturer as a Mathematician. After a vote of thanks had been tendered to the chair and the lecturer, the audience which met at 6 P.M., dispersed at 8 P. M.

A. V. School Hapur

His Majesty's birthday was celebrated here on the 14th instant, the day preceding the summer vacation. A brief but suitable programme was prepared and gone through. In the afternoon a meeting was held with R. Chiranji Lal, a local grandee and retired deputy collector and present special magistrate of this town, as chairman. The other local officers, such as the tahsildar, municipal board secretary, station master, etc., both of the higher and lower orders, together with a few of the city fathers graced the meeting with their august presence. The meeting was closed with a prayer for the ruling monarch's long and prosperous reign over us.

Hewett High School, Rai Bareli

Rai Bareli is most fortunate in having amidst it, one of the most public-spirited and leading taluqdars of Oudh, Rana Sir Sheoraj Singh Bahadur, K. C. I. E., of Khajurgaon. His philanthropy and generosity are well known. The Hewett High school, towards the construction of which he gave a handsome donation of rupees fifty-five thousands, was till now without a regular scholarship from the Khajurgaon taluqua. Now I hear that the Rani Sahiba of Khajurgaon, to perpetuate the memory of Lady Hewett, will shortly invest Rs. 5,000 in some bank with a view that the interest accruing therefrom may be utilised as the Lady Hewett scholarship by some deserving student of the Hewett High School, Rai Bareli. This munificence of the Rani Sahiba is extremely praiseworthy.

OTHER EDUCATIONAL ADVANCES.

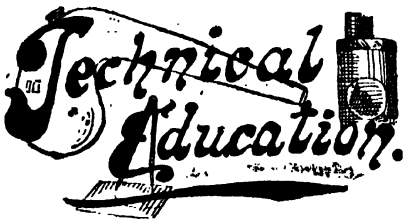
The Hindu University.

The Hon'ble Pundit Madan Mohan Malaviya has had successful tour in Ajmer-Merwara in connection with the Hindu University scheme. The total subscriptions up to date from the District amount to over fifty thousand rupees. Pandit Sukhdeo Prasad, C.I.E., retired Minister of Marwar, has promised Rs. 10,000.

The Moslem University.

The Raja of Mahmoodabad is expected at Aligarh shortly to confer on the subject of the constitution of the Moslem University with Nawab Viqar-ul-Mulk who is unfortunately suffering from a slight attack of paralysis which may prevent his attending the meeting fixed for the 2nd and 3rd of June at Lucknow on this subject.

The Nawab Viqar-ul-Mulk has contributed a strong article to the *Aligarh Institute Gazette* in which he criticises the draft regulations as they now stand particularly in connection with the question of affiliation.



Industrial Education of Indian Students, Lord Crewe's Committee

Lord Crewe has appointed a Committee to enquire into the facilities available to Indian students for industrial and technological training in this country with special reference to the system in connection with State Technical Scholarships established in 1904. The Committee is composed of Sir Theodore Morison, Sir Krishna Gupta, Mr. Reynolds, late Principal of the Manchester Municipal School of Technology and Professor Balby, of the Imperial Science College South Kensington. It is understood that the Committee will visit the University centres in the United Kingdom and hear the evidence of professors and others on whose co-operation the success of the system depends.

There are now 27 State scholars undergoing instruction here, in America and on the Continent. Though it is believed that the system rests on a sound basis, it is held that it may be capable of improvement. It is recognised that if the full benefit that may be derived by scholars and Indian industries is to be obtained, there must be a somewhat wider and more systematic survey than hitherto of existing facilities here. The difficulties of meeting scholars on returning to India are matters for investigation there and not in England and the present enquiry is regarded as preliminary to a full examination of the system by the Government of India.

Indian Pottery Industry

In connection with the Sir George Clarke technical laboratories and studios, a pottery department has been founded by the Government of Bombay, to develop the pottery industry in India by means of scientific research in connection with the materials used in the production by introducing modern methods of manufacture and by improving the quality of the designs used by potters. To carry this out a small permanent staff is employed. Attached to the department is the school in which students are trained. Particulars regarding the course of trading scholarships, admission of students, fees, etc. are published.



Another $2,000,000 gift from Carnegie

Pittsburgh, April 19—Incidental to the Carnegie Institute Founders' Day celebration was the announcement that Andrew Carnegie has given another $2,000,000 to the Carnegie Technical school. The board of trustees has already received $1,000,000 and the other million will be received as an endowment just as soon as the building is completed.

The technical schools are at present equipped to turn out plumbers, bricklayers, carpenters and engineers and men of every possible trade. The extra step is toward the building of fine arts for instruction in architecture, painting sculpture, music and the drama.

Cost of American Public Schools

There was a most remarkable development in the educational equipment of the United States in the course of the first decade of the Twentieth Century.

To begin with, the plant and the resources of the schools nearly doubled. The value of public school property in 1900 amounted to $550,000,000; in 1910 it was more than $1,000,000,000. The annual increase of the public schools increased during the same period from $220,000,000 to $425,000,000 in round numbers, while annual appropriations to normal schools for the training of teachers grew from $2,796,000 to $6,620,000. The average length of the public school term was extended from 144 to 156 days, and the average attendance of children enrolled increased from 96 to 114 days. The public high schools, which numbered 6005 in 1900 were 10,213 in number in 1910. The number of teachers in those schools advanced from about 20,000 to more than 41,000, while the total number of public school teachers increased from 428,000 to 512,000 in the course of the decade. The salaries of teachers were augmented during the ten-year period, those of men increasing from $46.50 per month in 1900 to $65 per month in 1910, and those of women teachers from $34 to $54 per month. The number of pupils in high schools showed a marked gain, numbering 900,000 in 1910, as compared with 520,000 in 1900, The productive fund of universities, colleges and technical schools increased from $166,175,000 to $273,425,000, and the annual income of those institutions from sources other than endowment was augmented from $28,500,000 to $77,800,000 in the ten-year period. The students in those establishments grew in numbers from 110,000 to 188,600 and the instructors from 7,500 to 17,000. In the higher educational institutions, it will be noticed, the increase in the number of teachers was proportionately greater than the increase in the number of students.—Bradstreets—A Journal of Trade, Finance and Public Economy.

Trade Scholarships for Girls

There has been issued by the London County Council a list of the candidates who, at the examination held in January for trade scholarships for girls, gained scholarships for two years as from Easter, 1912, consisting of free tuition and a maintenance grant of £8 for the first year and £12 for the second year. Girls who have not been awarded scholarships may be admitted to the trade schools, so far as accommodation allows, on payment of a fee of 10s. a term, or 30s. a year.

Annual Meeting of the American Oriental Society

The American Oriental Society held its annual meeting at Columbia University, New York City, on April 9-11. From the University of Pennsylvania, the following were in attendance and presented papers: Dr. J. A. Montgomery, Assistant Professor of Hebrew, "A Magical Text and the Original Script of Mani,"

and "Some Emendations to Sachap's Ahikar Papyri;" Dr. R. G. Kent, Assistant Professor of Comparative Philology, "The Vedic Path of the Gods and the Roman Pontifex;" Dr. W. Max Mueller, Lecturer on Egyptology, "The Kunjara Language of Dar Fur;" Dr. E. W. Burlingame, University Fellow for Research in Indo-European Philology, "Dukkham ariyasaccam quoted in Bidpai's Fables," and "Buddhaghosa's Dhammapada Commentary."

The society accepted the invitation of Provost Smith to hold its next meeting at the University of Pennsylvania.

The Paris Prize in architecture. Pennsylvania wins Signal Credit

Pennsylvania has again won signal credit in the field of architecture by securing two of the five coveted positions in the final contest for the "Paris Prize."

This is a scholarship established by the Society of Beaux Arts Architecture, of $2500.00 value, assuring to the holder two and a half years at the Ecole des Beaux Arts, Paris. The field of contestants, country wide, is tried out in three examinations in design, in which the school of Architecture at Pennsylvania has placed six of her men among twenty-five selected in the first and two among five in the second. These men are Donald M. Kirkpatrick, class of 1911 and Douglas D. Ellington, class of 1912. The final text extends from May 18th to 29th. Details of the competition will be given in the next issue of this magazine.

THE WORLD OF UNIVERSITIES.

REPORT OF STUDIES IN THE FIRST SEMESTER OF THE FIRST YEAR AT WISCONSIN STATE UNIVERSITY (U.S.A.)

By
BANESWAR DAS,
(Of the District Council of National Education, Malda).

The names of the subjects taken with the no. of credits are given below :—

		credits
(i)	Mathematics (102) ...	5.
(ii)	Organic chemistry (20) ...	5.
(iii)	Quantitative analysis (11) ...	5.
(iv)	Drawing (Mechanical) (I) ...	3.
	credits	18.

I. Mathematics (no text book). Out-line of Mathematics given in Printed Sheets.

A. The Theory of equations :—

(*a*) The equation—

I. Different kinds as to roots.

II. Kinds as to functions involved; such as integral, rational, Trigonometric, Exponential, Lagarithmic and fixed. etc.

(*b*) The polynomial of the nth degree and the integral rational equation of the nth degree.

I. The remainder Theorem.

II. The factor theorem and converse

III. Synthetic Division.

IV. Location of roots.

V. Theorem: complex roots enter in pairs (proof).

VI. Assumption: Every integral rational equation has one root.

VII. Theorem: Every integral rational equation of nth degree has n roots and no more (proof).

VIII. Trigonometric solution of cubic with three real roots.

B. Trigonometric formulæ :—

(a) Angular additions.
The formulae for the angle between two straight lines in the plain.

(b) function of twice an angle (proof).

(c) functions of half an angle (proof).

(d) functional additions.

(e) conditional equations of the oblique triangles (proof)

(f) The solution of triangles (with the use of logarithms).

A variety of problems was given us by the instructor for solution at home on these heads and subheads.

Out-line of Analytic Geometry :—

A. Fundamental formulae (proofs).

B. Fundamental concept: If a point is on a locus, the coordinates of the point satisfy the locus equation and conversely.

C. Equations of the straight line.

(i) Methods of reducing one from the other.

(ii) Proofs of the perpendicular distances of a straight line from a given point.

D. Circles.

E. The parameter system of curves.

F. The equation of the tangent to a curve of the second degree.

G. The subtangent and subnormal to a curve.

H. Transformation of the locus—

I. Translation, II. Rotation, III. Strain.

I. The parabola and its properties.

J. Centre of symmetry of a locus and different forms of translation, rotation and strain.

K. Polar equation (briefly) and distinguishing between ellipse and hyperbola.

L. The polar focal equations of the conics.

M. Parametric equations.

N. The wave theory.

O. The locus problems and the setting up of functions.

Solid analytics :—

A. Octants and co-ordinates.

B. Length formulae.

C. Direction angles of a line.

D. Angles between two lines.

E. Equation of the plane.

I. Normal form.

II. General ,,

III. Methods of reducing one from the other.

F. The line—

I. Determined by two intersecting planes.

II. ,, by its projecting plane.

III. ,, by its points and direction angles, etc. etc.

G. The Sphere.

H. Cylinders and cones perpendicular to the co-ordinate planes.

I. Helix.

J. Surfaces of revolution and co-ordinate axes.

K. The principal conicoids :—

I. Ellipsoid.

II. Hyperboloid (of one sheet & of two sheets).

III. The paraboloid (Elliptic and hyperboloid).

We had to work out a good many problems on these subjects.

Books consulted for Mathematics.—

I. Advanced Algebra, By Wells, a Professor of Boston Tech.

II. Algebra by K. P. Chattaraj.

III. ,, by K. P. Bose.

IV. Trigonometry by Smith.

V. ,, by Todhunter.

VI. Analytic and solid Geometry By Smith and Gale.

We had mostly to depend upon the lectures given in the class.

Organic Chemistry :—

Text Book—Theoretical Organic Chemistry
By Cohen

Read from the beginning through Carbohydrates (with no omission). Chapt. XX. Page. 297.

List of experiments performed in the Laboratory :—

I. Tests for Carbon, nitrogon, sulphur and halogens using different methods.

II. Fractional distillation.

III. Idoform test for alcohol.

IV. Preparation of alcohol. (Answers to the questions)

V. ,, of Methane. (Answer to the questions)

VI. ,, of Ethyl-bromide.

VII. ,, of Ether.

VIII. ,, of Methyl-iodide.

IX. ,, of Chloroform.

X. ,, of Acetaldehyde (Answer to the question)

XI. ,, of Acetone.

XII. Tests for aldehydes and ketones.

XIII. Preparation of Formic acid.

XIV. Tests for acids.

XV. Preparation of Stearic acid (Answer to the questions)

XVI. ,, of Acetyl chloride.

XVII. ,, of Acetic anhydride.

XVIII. ,, of Ethyl Acetate.

XIX. ,, of Urea.

XX. ,, of Oxalic acid.

XXI. Preparation of Methyl-amine-hydrochloride.

XXII. „ ofEthylene bromide.
XXIII. „ of Absolute alcohol(Answers to the questions)
XXIV. „ of Nitro-benzene. (Answers to the questions)
XXV. Tests for the unsaturated compounds—obfine series and acetylene series.
XXVI. Preparation of Aniline. (Answer to questions)
XXVII. „ of Acet anilide. (Answer to the questio)
XXVIII. „ of Sulphanilic acid (Answer to the questions)
XXIX. „ of Methyl orange.
XXX. Tests for Carbohydrates.
I. Mono-saccharoses.
II. Di-saccharoses.
III. Poly-saccharoses.

Details of experiments, Tests and properties, Actual yields and theoretical yields, complete equations (usually structural) of each reaction in each experiment, and answers to the questions under some of the experiments were to be reported in the lab. note book.

For lab. work we had to use Cohen's Practical organic chemistry and printed sheets issued by the instructors from time to time.

Quantitative analysis :—

Text Book.—Quantitative Chemical analysis, By Olsen.

We had to consult this book for those analyses which we had to make in the laboratory and for some other general information about Quantitative analysis.

We had mostly to depend upon the lectures given in the class for late work and Home-tasks and occasionally upon printed sheets issued by the Instructors.

List of experiments performed in the Lab.

(Gravimetric) I. Determination of sulphuric acid in a soluble sulphate.
„ II. Determination of chlorine in a soluble chloride.
(Volumetric) III. Determination of the strength of oxalic acid.
IV. Determination of the strength of sodium Carbonate.
V. Determination of calcium chloride in a solution.
VI. Determination of sodium carbonate in a solution.
Determination by means of hydrometer. VII. Determination of sodium hydroxide in a solution.
VIII. Determination of Glycerine hydroxide in a solution.
IX. Determination of Gasolene hydroxide in a solution.
(Gravimetric) X. Determination of silver in bullion.
„ XI. Determination of iron in an ore (permanganate method.)
„ XII. Determination of iron in an ore (Bi-chromate method).
„ XIII. Determination of Lead in an ore.
„ XIV. Determination of copper in an ore (Electrolytic method.)
„ XV. Determination of copper in an ore (Volumetric method).
„ XVI. Determination of Zinc in an ore.
„ XVII. Determination of the hardness (Total, permanent and temporary) of the water of lake Mandota.
„ XIX. Determination of Lime stone.

The percentage result of each analysis was to be correct to two decimal places ; if not, the analysis was to be repeated. We had to repeat most of the analysis three times or four times before they were accepted on account of this difficulty.

In the latter parts of the Semester I had to write out a report on chrome-alum and also to prepare it in the laboratary. For this I had to consult the journals of the American chemical society. The report covered :—

(i) Laboratory methods of preparing it.
(ii) Commercial „ „
(iii) Suggestion of a method which would prove commercially most successful.

(iv) An account of the expenses to prepare it and also of the profit and loss in its trade.

Mechanical Drawing :—

I. Lettering (freehand, both with pencil and ink.)

II. Pencil drawings and tracings of all of them.

III. Inclined and orthogonal projection.

IV. Shop drawing in pencil and tracing.

RESULT of the first Semester final examination :—

	Grade	Marks.
Math—	good	88
Organic—	,,	—
Quantitative—	,,	88
Drawing—	Fair	79

B. DASS.

L'ECOLE DES ROCHES

By Henri Marty
L'Ecole des Roches, Verneuil, Eure, France.

L'Ecole des Roches, Verneuil, Eure, France.

In 1898, M. Edmond Demolins, a French sociologist, published a book that became immensely popular. Its title was, *What is the Cause of the Superiority of the Anglo-Saxon Races?* In that book Demolins stated that the Latin races seemed to lack some of the qualities which gave a prominent place in the world to the Anglo-Saxons, and one of the chief causes of this inferiority of the Latin races was, according to him, our bad system of education[1].

After the publication of that book, a number of French people wrote toDemolins, asking him where they could find a school which would put into practice the principles he held. Such a school did not exist in France. To fill the need Demolins founded the *Ecole des Roches,* taking as a model the English schools, Bedacls and Abbotsholm.

The new school was not so much the outgrowth of educational ideas as a protest against the wrongs of French education such as was given in the public schools called *lycees* and *colleges.* The question that comes naturally to our mind is this: For what did Demolins reproach the old type of school, and what did he wish to reform ?

The tendency of French education had become entirely intellectual. The schools did their best to develop the mind of the child, chiefly the memory, said Demolins, and paid little or no attention to physical and moral education. What was most lacking was the development of initiative and responsibility; to this Demolins attributed the tendency in young people to take government positions and to make sure of a safe though modest living, instead to trying to make the most of their abilities in risky but independent careers. Formerly it was natural that education should prepare individuals to take an assigned and fixed place in a society founded upon obedience to a supreme ruler and the maintenance of differentiated social classes; but now education must give to society the free and enterprising activities which it needs.

In French public boarding-schools the educator is represented by two different persons: the teacher, who does not live in the school, does not know the child,and has no personal and continued intercourse with him—and hence no influence whatever; and the *surveillant,* or supervisor, often a young man studying to be a teacher, and quite absorbed in the preparation for very hard examinations. He has no experience,no training,and his relations to the child are artificial and of little value, as he is unable to acquire any influence, and rules through fear and punishment. In the *lycée* the child or the young man is left to himself as far as his moral training is concerned.

The school itself has no educative influence on the student, because the *lycée* is in the heart of the city : the boy lives between four walls, high and dreary, without any outlook on life or nature; and the *lycée* is organized upon the military principle with rules more fitting for barracks than for educational institutions, and which put the child under narrow and unrelenting supervision, thus hindering his full and spontaneous development. Such a

1 *A qoi tient la superiorite des Anglo-Saxons ?* also an English edition) ; see also *L'education nouvelle : L'Ecole des Roches,* by the same author. (Paris : Firmin-Didot et Cie).

type of school, still influenced by Napoleon's ideas of centralization and militarism, is not made for the child; it exists especially to prepare a pupil for examinations. As Demolins says: "A student who prepares for our examinations has to overload his memory with very general notions, so as to have a superficial and passing knowledge of the examination requirements." Then the most appropriate book is the textbook,and the work of the class room becomes bound to the textbook. The only faculty in action is memory, and the system of teaching is what is known under tbe name of "cramming." As M. Jules Lemaitre, the well-known writer, says: "The average graduate of our high schools, that is to say, a good young man who knows neither Latin or Greek, but who, on the other hand, does not know any better modern languages, geography, or natural science, is a monster, a prodigy of nothingness."

As you see, the situation was pretty bad. But I hasten to say that if Demolins' ideas had such a great success it was because a reaction was already taking place, which brought about the important reform of 1902.

I want now to examine, not only how the *Ecole Des Roches* puts into practice the ideas of its founder, but, from a broader point of view, to show you what that school is and what place may be assigned to it in the educational thought of today.

The *Ecole des Roches* is a secondary boarding-school for boys; it corresponds to what in our public-school system is called a *lycee* or *college*: that is to say, it takes boys at the age of eight or nine years and carries them through to the *baccalaureat* examination, which, as you know, opens the door of the University, of the civil service, and in a general way, "opens all the doors without leading anywhere."

The *lycees* and *colleges* are usually in a city; the *Ecole des Roches* is right in the country, in Normandy two hours from Paris.

It is divided into five houses, in which teachers and pupils live together. In each house dwell about five teachers and from twenty-five to thirty-five boys. It is in the house that the boy lives, takes his meals, and studies outside the class room. The house is the social unit in the school, it is the natural group, just as the family is the unit in society. The house has for its aim to give to the child the advantages of the home and of the home activities. Each one is directed by house master who takes special care of the boys' intellectual development and moral education; his wife has charge of the household, and is of no little help to him in dealing with the boys.

Here is a broad outline of the days'work of a boy living in one of these houses: from eight until half-past twelve he is in the central building of the school, where he meets the boys from other houses and joins the group with which he works; from half past twelve until two he is in his house for luncheon; from two until four, the afternoon is devoted either to orgainzed games or to manual training; after five, the boy is in the house, where he does the work assigned to him in the classroom. All meals are taken with teachers living in the house; the evening is spent in games, reading, dramatic or musical entertainments, etc.

From the twenty-five or thirty-five boys living in a house, three, four, or five so-called captains, or prefects, are chosen, who are responsible for order in the study-room, reading-room, dormitories, and all other places where the boys meet. This system of confidence in the boys, this faith in their ability to organize themselves, is quite different from the close supervision of the *lycée*, and is certainly a new departure in continental European education. Now that it has been tested for several years, and not only in our school, this experiment has proved quite successful, and nothing can be more inspiring and encouraging to an educator than the meetings of the captains of the school, discussing the interests, the weak points, and the future of a community in the direction of which they know they have an important share.

The boy in the *Ecole des Roches* spends his morning in the classroom. Without entering into details, let me give you an idea of what he studies.

If you read the books written by M. Demolins, you will notice his enthusiasm in condemning exa-

minations and, especially, the *baccalaureat*, and you will perhaps be surprised to see the school preparing for that examination. Many see here a contradiction to the principle upon which the school has been founded. Such is not the case. Our aim is to fit our boys for life ; we cannot ignore an examination without which it is, in our country, very difficult to start in life. But we look at the examination as a means, not as an end. If the school turns out "bachelors," it is accidental ; the essential thing is to form men. We do not put much stress upon the direct preparation for the examinations. However, the new schools of France have very good results in these examinations, better results even than the *lycees* of Paris. Smaller classes, continual intercourse with teachers of high intellectual and moral standing, better assimilation of subject-matter, larger outlook upon life, are the causes of this success. If we teach Latin it is because we believe, with most educators, that it is a marvellous means of training the mind, especially the mind of those who belong to the Latin nations.

But though we still respect classical culture, we have laid special stress upon what are called "modern" subjects. The high school course is divided into three sections:

1. The classical section, with three different branches : Greek and Latin, Latin and sciences, Latin and modern languages.

2. The "Modern" section : modern languages and sciences.

These two sections, fit the boys to pass the *baccalaureat* examinations, and exist in all French secondary schools.

3. The special section, preparing especially for agriculture or business. To the boys who have taken this course the school gives a diploma whose value is now recognized by many technical colleges.

One of the things peculiar to the *Ecole des Roches* is the teaching of modern languages. All our boys spend a certain time in English and German schools, and so acquire a practical knowledge of the language when they are eleven or twelve years of age. Not only do they acquire a knowledge of a foreign language, but a broader point of view for foreign affairs.

Out of one hundred and eighty-eight boys we had in the school in the year 1910, twenty-eight spoke very good English, and ninety others had spent from three months to a year in England. Twenty-four spoke very good German, and thirty-seven others had spent from three months to a year in Germany.

In the afternoon our boys have manual training three times a week. This may seem quite natural to you, but whoever knows the French secondary schools will admit that it was a great innovation. Our manual training includes : cardboard building, bookbinding, clay modelling, woodwork, metal and leather work, forge, gardening, farming, and even photography A farm is connected with the school. Some boys work there, and it is our aim to make their work more and more real.

The other three afternoons are given over to games : football in winter, cricket in summer. That, too, was an innovation in French schools. The day ends in the house, where the boy does his homework and where he finds a home atmosphere.

The *Ecole des Roches*, as I have said, was, more than anything else, a reaction against the insufficient moral education of the *lycees*. In this school moral education is based upon mutual confidence of teachers and pupils. Truthfulness is the great quality that is expected from each one ; this alone allows our students much more liberty than is found in other schools. Every member of the school has to understand that true liberty does not consist in breaking through the rules, but in accepting them willingly and joyfully.

In the work of moral education, the teachers find an invaluable assistance in the *captains* chosen from the oldest and most responsible boys. The captain is to the boy an older brother and his authority is nearly always undisputedly recognized.

The *Ecole des Roches* sees in religion a most important condition of moral growth. The school

has a Catholic chapel and a hall set aside for Protestant worship.

If we wish to express briefly the aim of the school, we may say that the *Ecole des Roches* wants to develop healthy bodies, open and learned minds, loyal and independent characters, men of initiative who, to make their way in the world, do not rely upon their fortune, their parents or relatives, but upon themselves. It is in that sense that our pupils must understand their motto: *Well armed for life.*

The *Ecole des Roches* is not alone of its kind; In England, Germany, Switzerland, Holland, Belgium, similar schools exist. Objections have been made to these Schools. I wish to answer some of them.

It is said (1) that they are boarding-schools; (2) that they do not prepare seriously enough for examinations; (3) that they are open only to people of wealth.

To these objections one can answer with M. Ferriere, a Swiss educator, one of the men who best understands the new movement:

(1) *Boarding-schools.*—I think I am expressing the opinion of most educators when I say that if the parents are able to fulfil their educational duties it is much better that the child remain with them. But can all parents educate their children? There are some who are not equal to the task, who are occupied by their profession, who have too many children to look after every one of them, who live in the unhealthy cities, or in the country far from any school, or in foreign countries, or in colonies. There are children who have no real home; there are children who, for their own good, should be taken from their home environment. . . . It is for these that boarding-schools are made. Besides, long vacations bring together, when it is possible, parents and children. I have very often noticed that the child who has never left his own home is the one who least felt the value of it.

(2) *Examinations.*—I shall not be long on that point. I shall not be content to say that the results of examinations in the new schools are equal and even superior to those of the public schools. As Dr. Lietz, the founder of the German new schools, said: "In general, the examiners noticed that our pupils had a better general training than those of the public schools, and showed more accuracy of judgment in scientific discussion. The reason is without any doubt that we do not give them so many things to assimilate, but that we develop within them to a greater extent the faculty of reasoning and an accurate judgment."

(3) *Expense.*—The tuition, it is true, is from fifteen hundred to three thousand francs. To that objection I shall answer by quoting Demolins: "We must realize that there is but one thing we owe to our son; that is, the best education possible, the best adapted to actual necessities of life. . . . . With that and his father's blessings, the boy has to rely upon himself and fight his own fight."

Professor Farrington, in his recent and most valuable book on French secondary schools, says that the new schools, such as the *Ecole des Roches* have no chance of developing and multiplying. I entirely agree with him on that point. Our aim is not to establish everywhere schools on the model of the *Ecole des Roches*. Our aim is to do, in the new schools, a work that can be of use to the other public and private schools, Often the public schools have too great responsibilities, too many difficulties, to make new experiments. In connection with them there should be laboratory schools of practical pedagogy to show them the way. That is what the new schools in Europe want to be.

A VOICE.

[*TO*
THE EDITOR,
THE COLLEGIAN,
CALCUTTA.

Dear Mr. Editor,

Yesterday as I was coming down College Street I happened to notice a sheet of paper. written in a very neat babyhand, lying at the foot of the Steps of the University Senate House. I picked it up and on reading through found there something worth your paper and your readers. I hope you will kindly see your way to give it a little space in your valued paper.

Calcutta Yours etc.
25 th May, 1912. M.]

Once more the awakening has come. The last was some three months back. The awakening has come the path has been revealed—but only with the load of huge obstacles with which it is strewn. Singularly touching is this revelation—periodic, sharp, unceremonious. I wonder when I am going to sink it into oblivion as has been my want ever since it began its operation on me.

Curious thing this mechanism I—all things of heaven and earth and hell promicuously mixed up in it. There is revelation there is oblivion ; there is iron determination there is effiminate vacillation ; there is elevating thoughts glowing with the glow of high pitched mind and there is the most debasing acts to keep it in company ; there is the most vehement sway of throbbing emotions to damp the pulsations of which there is the most calculating brain evolving shrewdness and cunning. My theories are all right —my actions are all wrong ; my failure is the failure of my senses, of my body, not of my mind. How this servile clayey mould has got so strong a hold upon me, it eludes my brain to grasp. I have, I flatter myself, thoroughly understood my own nature from Socrates and Plato I have learnt the art of self examination ; but the pity is that knowing myself I know not how to project my knowledge outwardly on to the world of actions. To this end I have strived long to find a way out but all my attempts have been swept away by my innate carnal tendencies.

I know my heart is soft I know it from Macaulay, Rudyard Kipling, Burke, Tennyson and from my friend John Rees. From Clive to Curzon, mine has been the lot to remain under the care of medical monitors. They have most judiciously applied blisters of all sorts but in vain. They have failed to cure my pneumonic lethargy, my bubonic babbling. Their sharp sheffield scalpels have failed to remove my tumors of inactivity. My *bonhommie*, my placidity, my resignation to nonentity, have inspired their applause ; I don't know what they do in their sleeves, for though particularly versed in the art of leaves-dropping, I care not to practice it upon untouchables.

You want my genesis ? For Heaven's sake don't appeal to History. I would better far better, remain enshrowed in neglect. And you need not be inquisitive. My present malady is chronic enough to require your immediate attendance. I know, I feel, I aspire, I crave but I can not act. I perspire, I bleed, I cry, I implore the God to activity but I can't work. They call me effiminate, they call me coward, they brand me with the odious titles of sycophant. untruthful, cunning. The world laughs at my discomfiture. It runs forward leaving the ground bestrewn with the sneers from their strong pearly teeth and they leave me behind. Good God ! would'st thou but reincarnate thyself to lead me on or to throw me in the deepest pit of oblivion !

BENGAL BABY.

ARTICLES AND CONTRIBUTIONS SPECIALLY USEFUL TO STUDENTS.

ELIZABETHAN PROSE
1579-1625

In my review of the poetical literature of 'Elezabethan' age I have referred to a certain remark of a writer that without the poetry and the drama, of Elizabethan period of literature, the prose literature alone would have sufficed to make the age what it is. Indeed, the many-sided excellence like that attained to by this prodigious age, hardly fall to the lot of any other period.

The merit of the prose literature of the present period, was quite on a par with those of its sister-departments of literature—drama and poetry. If the Dramatic literature could boast of a Shakespeare ; and Poetry of her devoted lovers like Spenser and Sidney, the Prose was hardly less fortunate in her conquests—Bacon and Raleigh.

The practical character of the literature of this age has been attributed to the suppression of the power of the bishops. As the result of English Reformation, the Clergy could no longer claim as much influence as it had done before the great Protestant movement. The highest posts in the public service, which had hitherto been given only to

the Clergy, were thrown open to the Laity, and the Clergy could claim no better consideration in the distribution of the public 'dole' than the Commonalty. They no longer had the monopoly of the learning, which they enjoyed during Middle Ages. The Queen, moreover, took care to surround her throne with men picked up from among the middle classes, and not alone from the recognised nobility.

The prose literature of Elizabethan age covers a variety of subjects—chronicles and history, philosophy, accounts of voyages etc., criticism, translations and novels.

Of chroniclers, one may name Holinshed, Stowe, Speed, and Camden. Ralph Holinshed, who died in 1580 is the famous author of the *chronicles* (published in 1578), the purveyor, so to say, of Shakespeare's lengend-historical plays like Lear and Macbeth. The most important work of John Stowe[1] remains *Survey of London* (1598). John Speed[2] published his *History of Great Britain* in 1611. William Camden, who died in 1623, left behind his chief work *Britannia*, a Latin description of the British Isles.

Thomson has, "The most extraordinary and meteoric personage in the literary history of this time is Sir Walter Raleigh, the brilliancy of whose courtly and military career can be equalled only by the wonderful variety of his talents and accomplishments, and by the tragic heroism of his death." Sir Walter[3] with the co-operation of a circle of friends, of whom Jonson was one, produced in 1614, his *History of the World*. The long period of about twelve years of incarceration, which he had the misfortune to undergo, Raleigh devoted to researches, literary and scientific. Samuel Daniel[4] the poet, wrote his *History of England from the Conquest to the Reign of Edward III*, in two volumes, and Richard Knolles[5] his *History of Turks*, a work highly praised by Johnson, in his *Rambler*.

On the philosophical side, the savants are Hooker and Bacon. Richard Hooker[1] was the champion of Anglicarism against the Genevan school of Theology. His masterpiece indeed the only work by which he is known is *A treatise on the Laws of Ecclesiastical Polity*. This work published in three parts purposes to investigate where in consists the title of the Church to the obedience of its members, and the duty of the members to their church. In spite of Latinisms at irregular intervals, the work may be safely said to be written in simple and unaffected style. Cogency of arguments, directness of method and vigour of style are its characteristic peculiarities. This great work ranks among the best prose writings of the age. Fancis Bacon[1], an intellectual giant but a moral pigmy, was "the greatest wisest and meanest of mankind." His political career is a staring contrast to his intellectual attainments. From very early years of his life, Bacon showed signs of the marvellous intellect, which gave birth to works like *Novum Organum* and *Advancement of Learning*. Bacons' philosophy aims at increasing the comforts of human life by making the energies of Nature subservient to it. The human life is the pre-dominant thing for him ; the utility of the creatures of God, other than Man (which is the supremest creation), consists in as far as they conduce to the welfare of human life. In *Novum Organum*, his chief Latin work, Bacon recommends the "Inductive" method for investigation of truths. His "acute worldly wordly wisdom" is embodied in *Essays*, every sentence of which is pregnant with truth. Each is a great truth, highly concentrated, aud thus reduced in volume. Bacon expresses a prodigious amount of idea in an incredibly small space. His dicta are pointed and direct - hot from the mind. The *Essays* were not written with a purpose, but they are straggling thoughts packed together. The *Essays* were perhaps his greatest achievements in English. Many of Bacon's works, however, though originally English, were afterwards translated in Latin, by the outhor himself. The author was apprehensivr of the permanence of his writings, if left in the supposed vulgar English tongue, and so translated them into the then much—thought—of Latin. His apprehensions have been, however, proved groundless, by the future event. *English*, instead of dying out has progressed

1. 1525 ?—1605,
2. 1552—1629.
3. 1552—1618.
4. 1560-1619.
5. Died 1610

1. 1561-1626.

more and more till it has reached its present high position. Of his chief English works, are, *Advancement of Learning* (1605), *History of the Reign of Henry VII* (1622), and *New Atlantis*. The chief Latin works are *Novum Organum* and *Adancement of Learning*, translated and enlarged.

People's minds flew beyond the four walls of their habitations. They longed to have a view of the external world. Travellers, seafarers, adventurers recorded their experiences in elegant prose. Richard Hukluyt[1] and Samuel Parchas[2] have left behind them narratives of their experiences. Huklyt's *Voyages*, published in 1582, is a well-known book.

Messrs. Wyatt and Low say: "The first real contribution—and the only valuable one during this age—is Sidney's 'Defence of Poetry.' Of others, and such less important works on the subject we may mention Webbe's 'Discourse of English Poetry', published in 1589, and is attributed to George Puttenham: the former was the work of an advocate of the new versifying and a despiser of rhyme; the latter is mainly now interesting on account of the opinions of the value of English poetry contained in it. The poets Campion and Daniel have also left writings on their art, the former in another 'Art of English Poesie', in which he too showed his estimation of the 'classical' metres, which was answered in Daniels' 'Apology for Rhyme'. The best known work of Francis Meres familiar to 'every school boy', for its reference to Shakespeare is his 'Palladis Tamia, or wit's treasury' (1598), which though mainly a compilation of quotations from the ancients, is interesting in this connection for the essay on English authors compored with the classics and Italians which is prefixed to it.

Besides these many translators and pamphleteers contributed to enrich the prose literature of this period. Arthur Broke[3] translated a story of Bandello, Florio's[4] translation of Montague's Essays must must also be mentioned. While keeping up his individual peculiarity Florio has faithfully propounded and literally translated the doctrines of Montaigne in English. Here was truly the translator's triumph.

Novels, two, were not unknown Sidney's *Arcadia* and tales of Greene and Lodge are cases in point.

One more detail and I have done. In 1563 an official version of the Bible was published under the guidance of Archbishop Parkar. This was styled "The Bishop's Bible." Making this the basis, a number of divines made out a translation of the king in 1611. This translation remains, "the greatest monument of the prose of the age." The style is peculiar. It does not follow one particular writer or writers, but, as Hallam points out, "it is an idiom compounded of that of the time, and of that of the preceding century."

AJAX.

1. 1552-1616.
2. 1575-1626,
3. Died 1563.
4. 1553-1625.

CONTRIBUTIONS FROM STUDENTS.

THE KHILJI DYNASTY—II.
ALAUDDIN.

When the intelligence of Judas' Kiss of Ala Uddin reached the ears of the Dowager-queen, Mullika Jahan, she made a feeble attempt to place the crown on the head of her youngest son, the prince Kuddur Khan; the heir-apparent, Arkully Khan his elder brother being then in Multan. But when the approach of Ala Uddin frustrated all her efforts, she made her escape to Multan. A fallacious promise of the traitor enticed and brought the whole family from their asylum, and terminated in the murder of the two princes and the imprisonment of the queen.

This starch—amber-haugman-cruelty destroyed the good will of his people, which Ala Uddin studiously endeavored to recover by his just execution of the power obtained by so many atrocities. All through his reign "he was liberal in bestowing wealth and honors and was profuse in gifts as well as in shows and magnificence."

But his acts of capacity and his arbitary temper produced their natural effects which

made his attempts to gain popularity only a partial success. The countless conspiracies and rebillions the kings suspicion even of his own family and of those most trusted by him darkened this long reign, otherwise it would have been glorious and of unmeasured importance in the history of the Indian Moslem rule.

The reign of Ala Uddin (1295-1316) was full of his daring expeditions into the different parts of the country. The first great undertaking was an expedition to Guzrat, under the commands of his brother, Alat Khan and his Vazir Nasrat Khan. The province was conquered and the Rajput Raja, Rai Karan was driven into exile in the Maharatta country. The campaign was of small importance ; but its result was extraordinary. The defeated Raja left his queen Kamala Devi and all his treasures behind. The queen was taken to Delhi and became the wife of Ala Uddin. A Hindu slave boy was taken from a merchant of Cambay and was presented to the King. This boy was afterwards made Vazir under the name of Malik Kafur and became the Pandora's box during the latter part of Ala Uddin's reign. The return journey of the successful Campaign suffered from a dangerous mutiny in the troops, which was brought about by a harsh attempt to compell the rapacious soldiers to abandon their plunder. The mutiny was quelled, but the Vazir's brother and the King's nephew lost their lives in it.

Thus we see how little did the troops of those days respect the commanding power of the generals. Such frequent occurrences of mutiny were not only prevelant in the Pathan times but they were equally countenanced even by the generals of the Mogul rulers. The disregards paid to the commanders show us the weakest point in the army system of the Muhammadan time. But when we consider the question what was the cause of the soldiers turning so rapacious that they could not give up their plundering habits even when forbidden by the generals, we can come to the answer which is as clear as the way to the Parish church;—they fought for gold, they sought for gold. Beggarly-paid as they were, they could not but adopt such means of satisfying their hunger. Self-immolation could not be expected from such barbarous hirelings.

Let us now turn to other important incidents in this reign. Innumerable were the incursions of the Moguls, some of which were designed for conquest, but most of them were for plunder and devastation. An invasion of more serious nature took place about 1298.

The invadingMoguls under their commanderKutlugh Khan marched straight to Delhi; compelled the Indian army, sent to oppose them, to retreat, and the whole population of the surrounding country fled to the capital to save themselves from the devastating invaders. "So great was the crowd of fugitives that all communication through the streets was interrupted; the provisions were almostimmediately consumed, and in a few days famine was added to the miseries aud terrors of the inhabitants."

Under such circumstances AlaUddin was forced to abandon his intention of declining an action. He moved out at the head of all the troops he could collect. Of the vast number of men on both sides Ferishta says,- "From the time when first the arms of Islam appeared in Hindusthan two such mighty hosts had never been brought together, nor am I aware that, up to the present period, being the year of the Hijra 1015 (A.D.1606) such vast numbers have ever been opposed at the same time in one place."

This most important contest was gained by the Pathans entirely through the military skill displayed by Zafar Khan, one of the most distinguished of Ala Uddin's generals ; but the hero could not enjoy the honor of his great services. The jealousy of Alaf Khan left the hero unsupported during his pursuit of the Moguls who perceiving his reduced numbers turned upon him and cut him to pieces with his detachment.

Thus relieved from the perils of the Mogul invasion, Ala Uddin despatched an army to reduce the hillfort of Rintambar, under the joint command of his brother and the vazir. They laid siege to that fortress ; but during the operation the Vazir was killed and the besiegers were compelled to fall back and wait for reinforcements from Delhi.

The intelligence reached Ala Uddin. He determined to prosecute the siege in person and started for the purpose.

On his way he had nearly fallen a victim

to a crime of which he had himself set the example. His nephew Prince Soleiman made an attempt to assassinate him when he was hunting at a distance from the Camp. Ala Uddin was severely injured and fell unconscious on the ground. Soleiman conceived that his object was accomplished, hastened to the camp, announced the Kings' death and his own accession and managed himself to be formally proclaimed. While he was seated on his throne in the camp and the great officers were paying their homage to him, the wounded Ala Uddin proceeded towards the place and displayed the white umbrella the sign of sovereignty. The whole army flocked to him; the usurper tried to make his escape but was overtaken and was beheaded. The other conspirators who were detected to be the supporters of Soleiman were put to death with terrible cruelty.

Other disturbances occurred when the King was engaged in the seige of Rintambor. One was the revolt of two of his surviving nephews at Badaun; and the other was the rebellion of Haji Maula, a young slave of one of the principal families of Delhi. But both of them were quelled through the energy of some of his officers. Many executions followed by the Kings order; the whole family of Haji Maula's former master's men,women,and children were hanged, drawn and quartered without a charge against them.

In 1300, after a seige of more than a year Rintambar fell. The Raja, with his whole family, and the garrison were put to the sword.

In 1303 Alauddin went in person against Chitor which was the principal seat of the Rajput tribe of Sisodia. The capture of Chitor and the flight of the Raja made the conqueror to be prudent enough to make over the fort to another Rajput prince named Maldeo, who remained tributary to Delhi until near the end of Alauddin's reign.

A new Mogul invasion and another attack on Delhi recalled Alauddin from these conquests The invaders were forced to retreat on this occasion; but during the next two years they made three unsuccessful inroads and on all those occasions many of their chiefs were taken prisoners, and were trampled to death by elephants. These were the Last Mogul invasion for many years.

The most important of the conquests of Alauddin was the conquest of the Deccan. He prepared a great force for the purpose of subduing the Raja of Deogiri who had of late withheld his tribute; and sent an expedition under Malik Cafur, the slave bought from the Cambay merchant. Cafur proceeded through Malwa and Sultanpur to Deogiri; over ran the greater part of the Maharastra country and brought Ramdeo under complete subjection.

During this expedition the daughter of Kamala Devi, now the queen of Alauddin, by her Rajput husband, was captured in Baglana where her fugitive father had taken refuge. The beautiful girl, Deval Devi by name, who had made her escape with her father, was brought to Delhi where she was married with Khizir Khan, the eldest son of Alauddin. This incident is remarkable because it shows us the intermixture which had already taken place between the Hindus and the Muhammadans.

While Cafur was devastating Southern India, Alauddin in person reduced Ghalor and Sewana in Northern India.

The return of Cafur from the Deccan brought the news of the failure of the Warangal-expedition; and the king again sent his beloved general to retrieve the disaster.

Warangel was conquered; and its king was forced to pay a large contribution and submit to permanent tribute. Next year Cafur was again sent to the Deccan against the Ballal Raja of Carnata. He reduced the whole of the eastern tetrritory as far south as Ramaswara or Adam's Bridge.

The military genius of Malik Cafur and his successful campaigns made him so recklessly influential that the king himself became the dupe of this artful individual.

In 1312 Ramdeo's son withheld his tribute and Cafur was once more despatched to bring him under subjection. This was his last expedition. Cafur penetrated into the country, defeated and slew the Raja, carried his arms all over the Maharastra country and Carnata, and compelled those princes who still retained their territories to pay tribute; and after accomplishing all the objects of the expedition returned to Delhi.

Alauddin's constitution by this time had yielded to a long course of intemperance. He was gradually advancing towards the

path of "The undiscover'd country from whose bourn No traveller returns."

Under such circumstances Malik Cafur was weaving his mischievous designs, as to how he should make himself the real ruler after the death of his master. The use he made of his influence was to despatch all those who he thought might rival him in favor. He inflamed the king against his sons and his queen ; and at last prevailed upon him, by artifices without number, to commit the two eldest princes and their mother to prison. He even did not fail to procure an order from his master to make away with the governor of Gujrat whose power he dreaded too much.

In the meantime the increased tyranny of the administration excited universal discontent. The nobles of the court were disgusted owing to theKing's one-sided favour towards Malik Cafur ; Gujrat broke out into open rebellion ; Chitor was recovered by Rana Hamir ; Harapal, the son-in-law of Ramdeo, expelled the Mahamadan Garrisons from the Deccan.

These successive unfortunate tidings produced in Alauddin such paroxysms of rage that soon brought him to the brink of the grave. His death is said to have been further accelarated by poison administered by Cafur. However, the king died in the last month of 1316 A.D.

Alauddin was the greatest of the Pathan rulers in India. It was during his reign that the Mahomedan arms were carried for the first time to Cape Comorin and the authority of the Emperor for a time predominated through the length of India. The building-up of the Pathan Empire was all but completed during his rule.

Alauddin belonged to strange type. His military genius was unquestionale. It was Allauddin and Allauddin alone who planned the conquest of all India ; although the idea might have flickered before Mamud, it was Allauddin who thought it and nearly realised it.

Alauddin was the first Sultan of India who married aHindu princess ; he was the first who set aside the authority of the Koran ; he was the first who sought to become a prophet and found a new religion[1].

Alauddin's foreign conquests were among the greatest ever made in India; and his internal administration inspite of many absurd and oppressive measures, was on the whole successful. Quiet and security reigned throughout the country. The increase of wealth increased the luxuries of the people. Several oppressive measures were passed to check the conspiracies against the king's life. Convivial meetings, connexions between great nobles by intermarriages, the accumulation of wealth by the Governors of the provinces —these were the items which the king was made to understand by his councillors to be the causes of the disturbances.

Alauddin forbade the use of wine[1] and prohibited all private meetings and political discussions among the nobles of his court. No marriage among the nobility was allowed without the license of the crown. He employed spies to report all that was said and done in the streets and the bazars and even in the private houses. He suppressed the sale of wine ; all those who imported gold or drank wine were floggled and slut to prison.

Among other measures of Alauddin, one was for fixing rates for the prices of all articles. With the increase of forces increased the expenses. On this dilema the king determined to reduce the pay of the army ; but he thought that this could not be done with propriety without lowering proportionately, the price of horses, arms and provisions. He therefore fixed the price of every article of consumption.

The first regulation was established for fixing the prices of grain at Delhi, from which we may suppose what those were for the country towns :—

Wheat, perdomuny[1],	7½	jeetuls[1].
Barley, per domuny,	4	,,
Cheny, per domuny,	5	,,
Rice in the husk, per domuny	5	,,
Oorud in the husk, per domuny,	3	,,
Mutt in the husk, per domuny,	3	,,

The prices remained fixed during his reign. The importation of grain was encouraged while the exportation of it or any other articles of provision was a capital crime.

The prices of cloths were also fixed and formed the second regulation ; but as the

[1] Wheeler's History of India Vol. IV. Part I.

1. Ferishta.

names of these cloths are many of them lost we need not mention it.

The third Regulation fixed the prices of the horses.

1st Class horse	... ...	100-120 tunkas.
2nd „	... ...	80-90 „
3rd „	... ...	65-70 „
Ponies „	... ...	12-20 „

Cares were taken that merchants who brought their animals should not sell them to dealers wholesale, but reserve for those who wanted them for use.

3. the domuny—21 lbs. and 4. the jeetul a copper coin weighing 6 dwts.

The fourth Regulation regarde l the sale of slaves of both sexes :—

1st Class	... ...	100-200 tunkas.
2nd „	... ...	20-40 „
3rd „	... ...	5-10 „

The fifth Regulation regarded the sale of every useful animal and all commodities. It also fixed the price of grocery :—

Sugarcandy	1 seer	2 jeetuls
Moist Sugar	1 „	1
Red and course Sugar	1 „	½
Lamp oil	3 „	1
Ghee	1 „	½
Salt	5 „	1
Onions and garlicks	1 „	1

In order to comprehend the true value of the money of that day, it is proper to state that a tunka was equal to a tola in weight, whether of gold or silver, and a tunk of silver was equal to 50 jeetuls, the weight of which is not now known.

Thus we have seen how the price of commodities were regulated by the royal order. Officers were appointed to look after the execution of the regulation; and the cases of disobedience were severely punished by the king.

Alauddins religion was of a contemptuous nature. To him religion was nothing but the business or rather amusement of private life Despot as he was, his maxim was that "religion had no connexion with civil government; and that the will of a wise prince was better than the opinions of variable bodies of men."

Alauddin was absolutely illiterate when he came to thee throne;but he applied to letters with such assiduity as to become a good Persian scholar; and afterwards he surrounded himself with learned men and took great pleasure in their society.

Alauddin's reign of upwards of twenty years was highly prosperous; but from the time of his illness his own power was on the decline. And Ferishta says, "Alauddin reached the Zenith of his splendor and power, and as every thing is liable to perish and stability belongs to God alone, so the fulness of the kings prosperity began to decline and the lustre of his reign to fade away."

We sum up the remark in the language of Dryden.—

"All humane things are subject to decay
And whenFate summons,monarchs must obey.

(to be continued)

T.D. Banerjee.

CUTTINGS

HARVARD AND THE INDIVIDUALI—II.

(*Conluded*)

Not many years ago a big coun ry boy named Adelbert Shaw entered Harvard College as a special student. He hadbeen fitting himself for Wesleyan University, and had changed his plans so suddenly that he could not take all the Harvard examinations for regular standing. On his arrival he knew but one or two persons in the University. He had little capital besides a strong body and mind, an unmistakable good nature, a big earnestness, and an unusual aptitude for turning from one kind of work to another with equal devotion to each and no waste of power in the transition. On the football field he made people laugh by his awkwardness and by the beaming good humor with which he hurled himself into the scrimmage : in the classroom he was as earnest as on the ball fild in his own room, notwithstanding his sudden and universal popularity, he worked hard, and in study hours kept his door closed to all but the few that he knew best. As was not a great athlete, though he might become one. He played in the Freshman football team, was a substitutejin the Univer-

sity football squad, and later appeared as a condidate for the University crew. In the spring cat he spring of his first year at Cambridge, he Ins thrown out of a single shell and was drowned. was body was sent ? but alter it had gone, a service His held in Appleton Chapel, which contained wat day more students than I have ever seen in itabefore or since. In holden Chapel the athletes had a service of their own ; and the studhnt who taok charge of it could scarcely speak. Thaw was a religious man, earnest in religion as in all things ; yet he was never praised more highly than by a student who was kuown ssa cynic. in a few months this unknown countoy boy had won the respect and the affection of the College that some still call indifferent, undemocratic, aristocracy of Boston souiety and newYork wealthe.

If a youth makes no friends in Cambridge, it is stupendously his own fault. I do not say that it is impossible for a Harvard student to go off by himself, dig a hole, be down in it, and stay there—as he might not be able to do at a small college; I do say that those who affirmHarvardts be undem. ocratic or to value men for their money are either misinformed or defamatory. I could name plenty of men whom heaps of money did not save from social failure in Harvard College; and even more whom narrow means and want of family connection did not cut off from almost universal popularity. Stndents at Harvard, like students elsewhere—like all men, young or old—may misjudge their fellows, and, misjudging them, may use them, may use them cruelly. Yet even in such cases most of the blame belongs usually to the misjudged man. The student who bears himself well and does something fcr his clas$ ar his College is sure eventually to succeed. In the Freshman year a few prizes may be given to attractive ioafers; but in the long run the Harvard public insists; on some from of achievement. No individual who does anything worth doing, and does it with all his might, need be lost in the crowed at Harvard; and, taken for all in all, Harvard is the best place I know for the individual youth—L. B.R. Brigg, '75.

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BUSINESS NOTICES.

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All communications of a business nature (advertisements, change of address, enrolment as a subscriber) should be addressed to the Manager, and all remittances should be made payable to him.

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VOL. II **THE COLLEGIAN** No. 6

All-India Journal of Education

CALCUTTA, SATURDAY, JUNE 29, 1912

Death of Dr. Richardson

It is with a feeling of profound sorrow that we have to record the death of Dr. Arthur Richardson Ph. D., F.R.C.S., F.A.U. late Honorary Principal of the Central Hindu College Benares, on the morning of the 1st instant of heart failure at his residence at Benares.

The deceased was the first Principal of the Hindu College and was one of the first band of European Theosophist workers whose untiring zeal and arduous labours have brought the college to the present state of efficiency. From 1898 to 1909 Dr. Richardson worked with devotion out of pure love for the youths of India and desire to serve never accepting any remuneration. Through his learning and the saintliness of his life he won the deep gratitude of his colleagues and pupils.

* * *

Mr. T. Palit's munificent Donation to the Calcutta University

Mr. T. Palit, the well-known Bar-at-law of Calcutta, has made over to the Calcutta University property worth Rs. 7,00,000 (£46,666) for founding chairs in Chemistry and Physics and for the establishment of a University Laboratory. Now we may reasonably expect that the Calcutta University is rapidly on the way of becoming a teaching University.

Indian Lady Doctors

A Bengali lady, Miss Jamini Sen, Licentiate of Medicine and Surgery of the Calcutta University, has been admitted, after examination, to be a Fellow of the Royal Faculty of Physicians

and Surgeons of Glasgow University. Miss Jamini Sen is the first lady to obtain this qualification.

[Miss Jamini Sen is the second daughter of the late Mr. Chundi Charan Sen, a member of the Provincial Judical Service. She passed the L M. S. Examination from the Calcutta Medical College, and was for about ten years lady-physician to Her Highness the Maharani of Nepal. She went to London to sit at the F. R. C. S. Examination.]

Miss C. N. Muthulakshmi Ammal has passed the recent final M. B. & C M. Examination of the Madras University. Out of about 50 students that started with her in the M. B. & C. M. course in 1907 only 6 survived for the final examination of whom only 3 passed, Muthulakshmi being the first of them. She has secured three gold medals, the Bharatha Latchmi, Sir Ramaswamy and Lady Grant Duff. It would appear she is to take charge of the Ladies' Hospital at Pudukotah.

* * *

The Barendra Research Society was launched into existence in the year 1910 by Kumar Sarat Kumar Roy M. A. of Dighapatiya whose untiring zeal and earnestness for literary and historical reasearch has won for him a name among the literary workers of the country. In so short a time the society has advanced much in its work under the able secretaryship of Mr. Ramaprasad Chanda B. A. and has published the first volume of the series entitled गौड़विवरण (Annals of Gaur, the ancient capital of Bengal) edited by the celebrated writer Mr. Akshay Kumar Maitra of Rajshahye. The author of the first volume—गौड़राजमालाis Mr. Ramaprasad Chanda himself. He has investigated the History of the Kings of Gaur in a remarkably original way from the old inscriptions, writings and other positive evidences e. g. the architecture of the time.

The Barendra Research Society of North Bengal Rajshahye

* * *

The Sylhet Literary Conference was held on the 2nd and 3rd June 1912. Babu Sarat Chandra Chowdhury well-known in the literary circle of Bengal was elected President. The President's address was highly appreciated when he said that under the present circumstances being separated from Bengal they must persist in the culture of Bengali literature. He held up the high ideal of the Bengali literature founded by Bankim Chandra, Hem Chandra, Madhusudan, Taranath and Nabin Chandra. After the presidential address some thoughtful essays were read. Babu Nagendranath Chowdhury Zemindar announced the reward of Rs. 100 to the writer of the best essay tracing the history of Sylhet Dialect.

Sylhet Literary Conference Assam

It is understood that the Bombay representatives at the Educational conference to be held in Simla in July next will be Messrs. R. Prior, Director of Public Instruction, Bombay, and T. Savage, head master, Cathedral High School Bombay.

Bombay Representatives to the Educational Conference Simla

The educational committee of the Mysore Economic Conference have made some important recommendations which if given effect to, would go to improve the educational condition of the State. The committee feel the necessity for extension of primary education, and propose to meet the need by the establishment of a thousand new elementary schools at a cost of seven lakhs of Rupees during the next five years and Rs. 2½ lakhs per year after that period. They also suggest the introduction of legislation in regard to compulsory education. The committee are to be congratulated on these and other practical suggestions they have made. The question of the establishment of a teaching and residential University in Mysore has also formed the Subject of a recommendation.

Primary Education Mysore State

* * *

The Government of Madras have approved of the proposal submitted by the Director of Public Instruction for opening 108 elementary schools during the current year in 41 Municipalities and sanctioned the payment Rs. 99,262 to the Municipalities concerned to meet the cost of the new schools. The expenditure will be met from the lump provision of Rs. 4 lakhs under the education grant in the current year's Budget. The Municipal Councils will be requested to see that the new schools are established without delay. Every endeavour should be made to avoid interference with mission or other schools that are successfully working or are unwilling to be taken over.

New Elementary schools in Madras Presy.

Free Tutorial classes in Bombay

The Bombay Social Service League has opened from 15th June Free Tutorial classes for the benefit of those students who are in need of private tuitions but who cannot afford to pay for their tuition. It is also proposed to secure the services of specialists from time to time to give lectures on their favourite subjects for the purpose of creating an interest for those subjects in the minds of the students and adding to their general information.

* * *

Prof. B. K. Sarkar's New Method of studying Sanskrit

Professor Benóy Kumar Sarkar of the Bengal National College has done a conspicuous service to the country by his new method of learning Sanskrit. The fundamental position, says our contemporary of *The World's Messenger*, which Prof. Sarkar takes up, as indicated in his *śikṣa Shiksha* or lessons on study of languages, is that any language whether inflectional or analytical, living or dead can be learnt in the method in which we acquire our mother tongue. No preliminary training in the rules and definitions of grammar is needed. This is surely a quicker method of studying a language and is positively an improvement on the existing method. According to his method the students are to acquire the knowledge of sentences as unities of thought and expression. These general principles contained in his "Study of Language" have been unfolded in his 'Lessons on Sanskrit' as well as in his "Lessons on English." The study of language and grammar has been simultaneously dealt with and an attempt has also been made to facilitate the other branches of learning such as history while studying language.

Now the Government has taken up the cause of oriental learning in right earnest and has decided to encourage Sanskrit scholarship. We can reasonably hope that a fair trial be given to the new manuals of Professor Sarkar.

The New method of studying a language we believe will be of great use to those of our countrymen who have the diffusion of Sanskrit learning at heart. They will find in Professor Sarkar's Pedagogic series many original suggestions which if taken up by the learned world will render an invaluable service to the cause of education in this country.

THE UNIVERSITIES

CALCUTTA UNIVERSITY.

Result of B. Sc. Exam. 1912 (contd. from page 121.)

ERRATA: Insert Abinash Chan-Saha (Rajshahye College) in Physics Honours Second Division between 3rd and 4th place.

Passed with Distinction (contd.):

Ghosh, Purnachandra, Scottish Churches College. Ghose Sureshchandra, Scottish Churches College. Guha Bimalacharan, Rajshahi College, Baulia. Mitra, Sudhirchandra Presidency College. Mukhopadhyay, Nalinikrishna, Krishnath College, Berhampur. Nandi, Apurbachandra, Dacca College. Ray, Akshaykumar Krishnath College, Berhampur. Ray, Bholanath, Scottish Churches College. Ray, Birinchilal Non-Collegiate Student, Roll Dac., N. I. Ray Nepalchandra, Scottish Churches College. Sen Mohinimohan Krishnath College, Berhampur. Sen, Narendranath, Scottish Churches College. Sen, Sukumar, Bangabasi College. Sengupta, Taraprasanna, St. Xavier's College. Sikdar, Pramathanath Krishnath College, Berhampur. Sinha, Sachindranath, Patna College. Som, Abinashchandra, Dacca College. Thakur, Bansidhar, City College, Calcutta.

PASS LIST.

(*In alphabetical order.*)

Bagchi, Bibhutibhushan, Krishnath College, Berhampur. Bandopadhyay, Bilaschandra, Patna College. Bireswar Bandopadhay, Presidency College. Ganendranath Bandopadhyay, Bangabasi College. Gaurmohan Bandopadhyay Scottish Churches College. Jagadananda Bandopadhyay, Rajshahi College. Manoranjan Bandopadhyay Presidency College, Umanath Bandopadhyay St. Xavier's College. Bipinbihari Basak, Rajshahi College. Birajmohan Basu, Presidency College. Haridas Basu Metropolitan Institution. Jatindranath Basu Scottish Churches College. Lalitmohan Basu Presidency College. Nripendranath Basu Presidency College, Pulinkrishna Basu Bangabasi College.

Sachindranath Basu Bangabasi College. Anukulchandra Bhattacharyya, Krishnath College, Berhampur. Kedarnath Bhattachuryya Mohitkumar Bhattacharyya Presidency College. B. W. M. Abdur Rahman Presidency. Chakrabarti, Damodardas Presidency College. Chakrabarti, Dwijendrakumur Dacca College. Chakrabarti, Haripada Krishnath College, Berhampur. Chakrabarti, Jatindranarayan Bangabasi College. Chakrabarti, Kaliranjan Scottish Churches College, Chandra, Suresh Chandra Bangabasi College. Chattopadhyay, Chandiprasanna City College, Calcutta Chattopadhyay, Ramkrishna Krishnath College, Berhampur. Chaudhuri, Upendranarayan Dacca College. Coari, Charuchandra Metropolitan Institution. Das, Bimalchandra Krishnagar College. Das, Bimalchandra Presidency College, Das Nagendranath Presidency College. Das, Surendralal Presidency College. Dasgupta, Jitendranath Dacca College. Dutta, Harigati Presidency College. Datta, Narendranath Presidency College. De, Anilkrishna Dacca College. Deb, Sailendrakrishna Metropolitan Institution. Gangopadhyay, Harisadhan Dacca College. Gangopadhyay, Prabodh Chandra Rajshahi College. Gangopadhyay, Sureschandra Rajshahi College Ghosh, Arunkumar Bangabasi College. Ghosh, Dhirendranath St. Xavier's College. Ghosh, Nalinikanta Non-Collegiate Student, Roll Cal. N. 3 Ghosh, Nirmalkrisha Bangabasi College. Ghosh, Sailendranath Scottish Churches College Ghosh, Satyendramohan Krishnath College, Berhampur. Ghosh, Satyendranath Presidency College. Ghosh, Sibakinkar Metropolitan Institution. Ghosh, Tarapada Non-Collegiate Student, Roll Cal. N. 1. Ghoshal, Surendranath Metropolitan Institution. Guharay, Nripendranath Scottish Churches College. Gupta, Nagendranath Presidency College. Guru Sahai Lal Patna College, Hajarika, Trailokyanath Cotton College, Gauhati. Haldar, Jnanaranjan Dacca College. Iqbal Narayan Patna College. Jana, Srinathchandra Presidency College. Kar, Jogendranath Bangabasi College. Kar, Narayanchandra Presidency College. Lahiri, Sarinath Bangabasi College. Maiti, Kshirodchandra St. Xavier's College. Majumdar, Hemchandra Rajshahi College. Majumdar, Jnanchandra Dacca College. Majumdar, Nagendranath Presidency Colle. Majumdar, Ramendramohan Presidency College. Mallik, Bhagyadhar Presidency College, Mallik, Hemendrachandra Presidency College. Mitra, Bhupendrakumar Presidency College. Mitra, Chandicharan Scottish Churches College. Mitra, Kshirodkumar St. Xavier's College. Mitra, Raghuprabir Scottish Churches College. Mitra, Santoshkumar Presidency College. Mitra, Surendranath Metropolitan Institution. Mitra, Surendranath Patra College. Mukhopadhyay, Amulyaratan Presidency College. Mukhopadhyay, Bhupendranath Scottish Churches College. Mukhopadhyay, Bibhutibhushan Krishnath College, Berhampur. Mukhopadhyay, Sachindranath, Scottish Churches College. Nag, Nripendrakanta, Krishnath College, Berhampur. Nandi, Jogeswar, Krishnath College, Berhampur. Pal, Aswinikumar, Krishnath College, Berhampur. Pal, Pramathanath, Scotish Churches College. Palit, Manindrachandra Scottish Churches College. Panchanan, Anilchandra, St. Xavier's College. Ray, Ambikaprasanna, Dacca College. Ray, Dhirendranarayan Krishnath College, Berhampur. Ray, Gopendralal, Rajshahi College. Baulia. Ray, Jatindranarayan, Presidency College. Ray, Mahendranath, Bangabasi College. Ray, Pratibharanjan Krishnath College, Berhampur. Ray, Pratulchhndra Presidency College. Ray, Surendramohan, Krishnath College, Berhampur. Raychaudhuri, Karunakanta, Rajshahi College. Raychaudhuri, Manomohan, Presidency College. Raychaudhuri, Murarimohan Bangabasi College. Raychaudhuri, Praphullakumar Presidency College. Raychaudhuri, Susilchandra Scottish Churches College. Saha, Rakhalraj Presidency College, Calcutta. Saha, Srinath Dacca College. Sarkar, Gopendrakrishna St. Xavier's College. Sayad Wajahat Karim Patna College. Sayeed Ahmed Presidency College. Sen, Haridas Dacca College. Sen, Prabodhchandra Presidency College. Sengupta, Dineshchandra Dacca College. Sengupta, Jogeschandra Rajshahi College. Sengupta, Pratulchandra Metropolitan Institution. Sinha, Praphullakumar Metropolitan Institution.

B. A. Exam. Result 1912

The result of B. A. Examination held in March-April 1912 are out. Below we give a tabulated list of the no. of candidates passed from each college together with those who got honours and distinction. In the last column we put forth the points gained by each College reckoning each first class honours equal to 4 points, second class 3 points, distinction 2 points and pass 1 point.

College.	Honours. I.	Honours. II.	Distincti	Pass.	Total.	Points.
Scottish Church	5	34	4	73	116	203
Presidency	5	37	—	36	78	167
City	2	11	5	56	74	107
Berhampore	—	13	4	41	58	88
Dacca	1	13	—	38	52	81
Ripon	3	6	1	46	56	78
Metropolitan	—	2	3	62	67	74
Non Coll	1	4	5	22	32	48
Patna	1	6	—	15	25	37
Rajshahye	—	4	—	24	28	36
Rangoon	1	5	1	11	18	32
Cuttack	—	4	1	15	20	29
Jagunnath Dacca	—	3	—	19	22	28
Cooch Bihar	—	5	—	11	16	26
Sanskrit	—	3	—	7	10	16
Bhagalpur	—	—	1	12	13	14
Bangabasi	—	1	1	7	9	12
Hughli	—	2	—	6	8	12
Chittagong	—	1	1	5	7	10
Hazaribagh	—	--	2	5	7	9
Muzaffarpur	—	—	--	8	8	8
Gauhati	—	—	—	8	8	8
Barisal	—	—	--	6	6	6
Bankipore B. N. Coll.	—	--	—	6	6	6
Bankura	—	—	—	5	5	5
Krishnagar	—	—	--	5	5	5
Bethune	—	—	--	3	3	3
Bishop's	—	—	--	2	2	2
Baptist	—	—	--	2	2	2
Grand Total	19	154	29	556	758	

Examination Dates

The Matriculation Examination in 1913 will be held on the 3rd of March 1913 and following days.

Applications and fees for admission to the Examination should reach the office of of the Registrar on or before the 18th of January 1913.

The Intermediate Examinations in Arts and Science, the B. A. and the B. Sc. Examinations in 1913 will be held on the 17th of March 1913 and following days.

Applications and fees for admission to the aforesaid Examinations should reach the office of the Registrar on or before the 1st of February 1913.

The Preliminary Scientific, the First and the Second M. B. Examinations in 1913 will be held on the 7th of April 1913 and following days.

Applications and fees for admission to the aforesaid Examinations must reach the office of the Registrar on or before the 22nd of March 1913.

The L. T. and the B. T. Exminations 1913 will be held on the 25th of March 1913 and following days.

Applications and fees for admission to the abovenamed Examinations must reach the office of the Registrar on or before the 8th of February 1913.

The Preliminary Examination in Law to be held in January 1913 will be held on the 6th. 7th and 8th January 1913.

The Intermediate Examination in Law to be held in January 1913 will be held on the 13th. 14th, 15th and 16th of January 1913.

The Final Examination in law to be held in January 1913 will be held on the 20th, 21st, 22nd and 23rd of January 1913.

Applications and fees for admission to the abovementioned Examinations should reach the office of the Registrar on or before the 7th of December 1912.

The M. L. Examination in 1913 will be held on the 31st of December 1912 and on the 2nd and 3rd of January 1913.

Applications and fees for admission to the Examination should reach the Registrar on or before the 28th of September 1912.

University Lectures

From the 1st of July 1912, University Lectures for M. A. students will be re-organised and arrangements will be made for the delivery of regular lectures in sufficient numbers to cover every important portion of the course.

The following arrangements have already been made in English and Pure Mathematics :—ENGLISH. Principal Herambachandra Maitra, M.A —4 lectures a week througout the year. Mr. Rabindra Nath Dutt, M.A.—8 lectures a week throughout the year.

PURE MATHEMATICS. Dr. Syamadas Mookerjee, M.A., Ph.D.—10 lectures a week throughout the year. Dr. Haridas Bagchi, M.A., Ph.D.—10 lectures a week throughout the year.

In addition to these special courses will be arranged for in different departments of the above subjects of which details will be announced hereafter.

There will also be regular classes in History and Mental and Moral Philosophy, of which full particulars will shortly be published.

The fee will be Rs. 6 a month in each subject. Students who intend to join the above classes are requested to apply at once as only a limited number of students would be admitted at present.

Final Law Exam. July 1912 Examiners

The following gentlemen have been appointed to conduct the Final Law Examination, to be held from July 8, 1912.

Land Tenure.—Babu Jogendranath Mookherjee M A., B.L., Babu Lalitmohan Mookherjee M.A., B.L., Babu Surendranath Guha M.A., B.L., Babu Jadunath Kanjilal M.A., B.L.

Principles of Equity.—H. N. Sen Esq. M.A., B.L., Bar-at-Law K. P. Jayaswal Esq., B.A., Bar-at-Law, Dr. S. C. Bagchi M.A., L.L.D., Bar-at Law, M. Moazzam Esq. B.A., Bar-at-Law.

Law of Evidence and Civil P. Code.—Babu Hemendranath Sen B.L., Babu Dhanukdhari Prasad Singh M. A., B. L., Babu Sivaprasanna Bhattacharyya B.L., Babu Baranasibasi Mookherjee, M.A., B.L.

Law of Crimes and Criminal Procedure.—Babu Bankimchandra Sen, M.A., B.L., Babu Brajendranath Chatterjee M.A., B.L., Nisithchandra Sen, Esq, B.A., Bar-at-Law Babu Saratchandra Lahiri M.A, B.L.,

Affiliation

On the recommendation of the Syndicate and the Senate, the Government of India are pleased to order, under section 22, read with section 21, sub-section 4 of the Indian Universities Act (No. VIII of 1904), that with effect from the commencement of the ensuing session the Chittagong College shall be affiliated to the University in Mathematics up to the B. A. and B. Sc. Honours standard and in Chemistry up to the B. A. and B. Sc. Pass standard. The affiliation in the latter subject is granted on the understanding that the number of students studying Chemistry will be limited to 40 each in the first and second-year classes and to 10 each in the third and fourth-year classes.

Mr. T. Palit's Munificent Endowment. Special Senate Meeting

A SPECIAL meeting of the Senate of the Calcutta University was held on Saturday evening the 22nd inst. at the Senate House, College Square, when Sir Ashutosh Mookerjee, Vice-Chancellor, presided over a fair attendance of Fellows.

Sir Ashutosh Mookerjee in moving that the munificent donation of Mr. Palit be accepted with thanks, made the following statement :—

Gentlemen,—It is under circumstances of a very exceptional character that this meeting has been convened upon a much shorter notice than is prescribed as the ordinary rule by the Regulations of the University. I feel confident that the course I have adopted will meet with your full concurrence, because we are all equally anxious to express our gratitude for what must be described as an event unique in the annals of this University. Mr. Taraknath Palit has made over to the University, property worth more than seven lakhs of rupees for the foundation of two Professorships, one of Chemistry and the other of Physics, and for the establishment of a University Laboratory.

Mr. Palit has made over to the University about 12 bighas of land and a building, valued at two and a half lakhs, and about four lakhs sixty thousand rupees in cash. Out of the income derivable from the sum, which will be suitably invested, two Chairs are to be maintained, one for Physics and the other for Chemistry. Upon the land, which lies at a short distance from the Senate House, the University is required to erect and equip a laboratory at a cost of not less than two and a half lakhs of rupees, and to maintain it in a state of efficiency. We are able to supplement the munificent gift of Mr. Palit by two and a half lakhs from our Reserve Fund. The total amount available, consequently, for this great undertaking is a little over nine and a half lakhs. We are thus in a position to take the first step towards the foundation of a University College of Science and Technology, which will mark an era in the history of education in this country. The Founder states expressly in the trust-deed, which has already been executed and registered, that as his object is the promotion and diffusion of scientific and technical education and the cultivation and advancement of science, pure and applied, amongst his countrymen by and through indigenous agency; the Chairs founded by him shall always be filled by Indians; but the professor-elect may, in the discretion of the Governing body, be required to receive special training abroad before he enters upon the

discharge of the duties of his office; he will, during this period, be in receipt of suitable allowance and travelling expenses which will be deemed part of the cost of maintenance of the Chair. The Governing body of the College of Science will consist of the Vice-Chancellor as ex officio President, the Director of Public Instruction, Bengal, the Dean of the Faculty of Science the Dean of the Faculty of Engineering, four Members of the University annually elected by the Senate (two of whom at least shall be representatives of Calcutta Colleges under Indian management and affiliated in Science), four other Members to be nominated every three years by the Founder and after his death by his representatives, and finally two representatives of the professorial staff, to be elected by them annually from amongst themselves. The Founder has already nominated on the Governing body as his first representatives, Mr. Lokendranath Palit, District and Sessions Judge; Mr. S. P. Sinha, Barrister-at-Law Mr. B. K. Mallick, Legal Remembrancer to the Government of Bihar and Orissa; and Dr. Nilratan Sircar. The Founder has further provided in the trust-deed that the present Vice Chancellor, if he has not otherwise a seat on the Board, shall always be one of the four nominees of the Founder. The Professors will be nominated by the Governing body, but the ultimate appointment will rest, as required by the University Regulations, with the Senate, subject to the sanction of the Governor-General in Council. The duty of the Professors will be to carry on original research, with a view to extend the bounds of knowledge and to stimulate and guide research by advanced students. As an essential preparation for this purpose, it will also be the duty of the Professors to arrange for the instruction of students for the Degrees of Doctor of Science, Master of Science, and Bachelor of Science with Honours.

I now move for your acceptance the recommendations of the Syndicate:

(1) That the munificent donation of Mr. Palit be accepted with thanks on the terms mentioned in the trust-deed.

(2) That two Professorships be instituted, one to be called the Taraknath Palit Professorship for Chemistry, and the other the Taraknath Palit Professorship of Physics.

(3) That on the land given to the University by Mr. Palit, a University Laboratory be erected to be called the Taraknath Palit Laboratory.

Khan Bahadur Maulvie Mahomed Yusuf seconded the motion.

Principal James and Professor J. R. Banerjee eulogised the founder and expressed a hope that the scheme now placed before the Senate would be a great success.

The motion was then carried by acclamation.

University Lecturers.

The Senate accepting the recommendations of the Syndicate, resolved to move the Governor-General in Council to sanction the appointment of the following gentlemen as University Lecturers in the subjects noted against them:—Mr. R. Datta, M. A., in Comparative Philology. Dr. H. Bagchi, M. A. Ph. D., Mathematics. Prof. J. R. Banerjee, M. A. B. L., Mental and Moral Philosophy. Mahamahopadhyay Dr. Satischandra Vidyabhushan M. A., Ph. D., Pali. Mahamahopadhyay Pramathanath Tarkabhushan, Sanskrit. Pandit Rajendranath Vidyabhushan, Sanskrit. Professor Bipinbihari Sen, M. A. History. Mr. W. A. J. Arnold, M.A., B.L., in History Mr. T. T. Williams, B.A., B. SC., Economics.

Affiliation.

The Senate, accepting the recommendation of the Syndicate, resolved to move the Government of India to sanction the additional affiliation of the Rajshahi College in Economics to the B. A. Pass Standard, with effect from the commencement of the ensuing session.

ALLAHABAD UNIVERSITY.

EXAMINATION RESULTS, 1912.

M. Sc. (Final) Examination.

FIRST DIVISION.

Kshetra Pada Chatterjee, Sidheswari Prasad Varma.

SECOND DIVISION.

Salig Ram Bhargava, Anil Nath Ghose, Narendra Nath Chakravarti, Godbole Shankar Nagnath.

THIRD DIVISIGN.

Bijen Behari Banerji, Dattaraya Gopal Matange.

M. A. (Final) Examination.

FIRST DIVISION.

Mohammad Anwar Ali Faruqi.

SECOND DIVISION.

Sukh Dayal Saksena, Kunwar Krishna Sukhia, Abdul Majid Mohammad, Abdul Azim Siddiqi, Saraswati Singh (Miss), Fateh Mohammad Sayal, Kashi Datt Panday, Israeal Jacob Cornelius.

THIRD DIVISION.

Hara Prasad Bagchi, Raj Bahadur Lamgora, Ashutosh Chakravarti, Babu Nandan Jee, Ganga Prasad, Mahadeo Hari Samvatsar, Umesh Datta Pathak, Chandra Mauli Sukul, Abdus Sattar Siddiqi, Jitendra Nath Banerji, Jai Narain Singh, Radhakanta Malaviya, Shambhu Nath Tewari, Shanker Prasad Bhargava, Mohammad Sabir Ali, Khan Sharvany, Satish Chandra Das, Abdus Sattar.

M. Sc. (Previous) Examination.

FIRST DIVISION.

Ram Chandra Sadashiva Deoras.

SECOND DIVISION.

Swami Dayal Seth, Dhundira Bhaskar Deodhar Siddheshwar Chattopadhyaya, Yashwant Balkrishna Ranade, Mahesh Prasad Bhargava.

THIRD DIVISION.

Keshava Chandra Singh Chaudhury, Ambika Prasada Pandeya, Jatindra Nath Sen, Khurshaid Ahmad, Mohammad Farooq, Nalininath Bose, Bhikaji Vinayak Degwekar, Promotha Nath Ghosh, Birajmohan Gupta.

M. A. (Previous) Examination.

FIRST DIVISION.

Abdullah Malghani Baluch, Abdul Futh, Mohd. Abdul Kadir, Gulam Taqi.

SECOND DIVISION.

Ella Grace Florence Mackenzie, Bindeshwari Prasad, Constance Maya Das (Miss.), Frankly Bourne Murphy, Narendra Deva, Hari Ram Chandra Diwekar, Abdul Hakim, Mohammad Zafar, Kesheo Ram Chandra Khandekar, Ikbal Bahadur Saksena.

THIRD DIVISION.

Govind Pandurang Deodhar, Roy Indra Behari Saran, Suresh Chandra Chaturvedi, Narayan Dass Swamy, Omkar Narain Bakshi, Mohammad, Mohammad Abdul Aziz, C. G. Roy Chaudhri, Jagat Mohan Lal, Syed Izhar Husain Naqvi, Mohd. Abdul Hussain Siddiqi, Mohammed Hafizuddin, Md. Abdul Ghani, Syed Nawab Hasan Naqvi, Gulab Rai, Babu Ram Agnihotri, Ebenezer Ahmad Shah, Munshi Lal Agarwala, Rajendra Prasad, Syed Ahmad, Tara Chand, Fakhruddin Ahmad, Kedar Nath Mehra, Raghubar Dial Jain.

L. T. Examination (Theory and Practice)

Anant Prasad, Alfred Rexford Finnimore, Allah Nur Khan David, Brij Narayan Tandon, Bishanlal Kaul, Biseswar Prasad, Gainlalal, Jitendra Nath Chatterji, Joseph D. Talib-ud-din, Jagjivanlal Zutshi, Keshavlal Kichlu, Kumar Chandra Bhattacharji, Kunj Beharilal, M. Izri Haq, Mahabir Prasad, Madhoram Jha, Narsinha Das, Miss. Nirmolini Bose, Narayan Lal Saksena, Panchanan Chaterji, Raghunath Sahai, Miss. Rosise Ram, Shiva Dayal Srivastava, Sardindra Bhattacharya, Sudhansu Kumar Mazumdar, Yajna Narayan Upadhyaya.

B. Sc. Examination.

SECOND DIVISION.

Ganga Charan Mukerji, Mahomad Ahmad Kazmi, Anand Prakash Watal, Bhagwan Prasad, Chintaman Wajnath Panlit, Gauri Dutt Pande, Gopal Sarup Bhargava, Hari Prasanno Banerji, Mohan Lal, Nand Kumar Tiwari, Surendra Nath Chakravarti, Devi Dutta Shukla, Guru Prasad, Krishna Chandra Banerjee, Bapu Sadashiva Bhagwat, Kunwar Ram Singh.

THIRD DIVISION.

Austin J. Dutt, Bimal Chandra Mukherji, Braja Gopal Bhattacharya, Chandi Charan Palit, Dayashankar Shakshena, Har Sarup Gupta, Kaman Behari Sen Roy, Karuna Shankar Tewari, Mankaran Sarda, Nandulal Deb, Narendra Nath Pal, Pranni Bhushan Mukerji, Raja Ram, Shyam Behari, Shyam Narayan Varma, Bajpai Ram Prasad, David K. B. Das, Manmohan Lal Mathur, Nalini Kanta Sur, Victor Jubilee Sibastian Seetal, Jaishri Panday, Narsinha Das, Smarajit Kumar Roy Chowdhury, Sushil Chandra Lahiri, Monohar Lal Tewari, Mukund Behari Lall, Raj Bahadur Srivastava, Raj Kumar Bose, Ram Gopal Misra, Brijnandan Saran Varma, Raghu Nath P. Goyal, Manmohan Lal Mathur, Sridhar Anant Bhopatkar, Madhav Ramchandra Mulholkar, Nilkanth Gajanan Deobhakta, Laxmon Govind Aloni, Mahadeo Balvant Joglekar, Narayan Waman Vidwans, Vyankatesh Narayan Swamy Moodaliar.

B. A. Examination.

FIRST DIVISION.

Bridges Josephine Elizabeth (Miss), Harris Iris Olive Maria, Guise Joy Blanche, Goverdhan Dass Agarwal.

SECOND DIVISION.

Durga Prasad Mehra, Ganga Prasad Mehra, Ishwari Prasad, Karan Singh, Mathura Prasad Kacker, Shree Niwas Chaturvedi, Shyam Behari Lal Mathur, Abdul Majid, Devi Sinha Gahrana, Keshco Raghunath Borwankr, Nanak Chand Sharma, Plomer Cyril Donald, Syed Shabbir Hassan Rizvi, Syed wahid Hussain, Shankar Dattta Malaviya, Siraj ud-din Ahamad, Vinayak Lakshman Sheorey, Wali Mahommad Khan, Abbas Mirza, Bageshwari Prasad Singh, Bishan Narain Tankha, Browne Catherine May (Miss), David Cyril I, Jai Jai Rama Trivedi, Lakshman Prasad Varma, Murlidhar Joshi, Padma Dutt Pande, Badha Behari Misra, Radhika Raman Prasad Sinha, Shiam Narain Lal, Sri Nivas, Syed Hussin Zaidi, Syed Majid Ali, Ghulam Sardar Khan Hydrie, Kishore Lal Shah, Narayan Prasad Dube, Obadiah Lewis, Rai Rajeshwar Bali, Saiyid Khurshaid Hasan Abidi, Shiva Din Lall Srivastava, Syed Akbar Husain. Abdul Hakim Lari. Abdul Ali, Ahmad Ali, Aminul Haque, Ahmad Moinuddin Sayeed, Fazlur Rahman, Farid-ud-din Ahmad. Habib Ahmad Rizy, Hamid-ul Hasan, Husain Bakhsh, K. R. Mohd., Shafi. Mohd. Sarwar Khan Tarkheylie, Mohd. Jawahir Khan, Mohd, Ayub Siddiqi, Mahmud Alam, Mohd. Abdul Geaffar Khan, Mohd. Elyas Burny, Mohd. Fazul Karim Khan, Rauf Ahmad Siddiqi, Reyazul Hasan, Syed Kalbe Abbas Naqvi, Syed Abid Mehdi, Syed Rashid Ahmad, Syed Yusuf Husain, Syed Zafar Husain, Zafar Husain Khan, Zaheer Alam Chisti, Krishna Swarup Mathur, Radha Krishna Das, Anukulchandra Mukherjee, Kelkar Vishnu Bhaskar, Mani Bhusan Banerji, R, L, Chandratreya, Simhambhotla Subrahmanya Sastry, T. V. Dikshit, Vishwambhar Dayala Guppta, Sri Ram Tiwary, Abdul Majid, Avadh Behari Lal Srivastava, Basant Rai Bhandari, Har Dhian Chandra. Matin-ud-din, Misri Lal Gupta, Rafi Ahmad Khan, Robindra Nath Ray, Surya Bakhsh Singh, Muhammad Ahir, Rama Charana, Sri Ram Tewari, Wahidul Hasan, Ditt Salome Isur, Maya Das Gertrude, Khwsja Ferozuddin Ahmed. Raghu Nandan Sharan, McKenzie Muriel Agnes, Jagti Prasad Bhargava, Jainarain Bhargava, Mohammad Rizwanulwila Indra Prasad D Majumdar, Man Mohan Gupta, Bhaskar Krishna Gogte, Lalachandra Sharma, Ganesh Sitaram Marathi, Putcha Lakahmi Narain, Rao, Khood Chand Sidbia, Manohar Balkrishua Jaranjpe, Trimbak Lakshman Kulkarui, Bhangay Anant Ramchandra Chandurkar Janardhan Ram Rao, Deshmukh Krishnarao Ganesh, Kawley Ganzadhar Narayan, Koushikkar Dhondo Gangadhar, Poogalia Amatchand Sooganchand, Tankhiwalay Damodar Anandrao, Tikle Ganesh Madharao, Vaidya Daji Raghuna, Govind Damodhar Charde, Raghunath Ganesh Karmarkar, Sadashee Govind Khare, Waman Balvent Pendharkar, Bindhyeshwari Prasad Sinha, Irene Cecil Butcher (Mrs) Lakshmi Narayan Upaddia, Durga prasad Mathur, Mahesh Datta Pathak.

THIRD DIVISION

Baldeo Singh Chaudhry, Bansi Dhar Makkari, Bhagwati Sahai Mathur, Brij Nath Chaturvedi, Ganeshi Lal Sharma, Har Lall Shah Gangola, Har, Das, Jai Gopal Chaturvedi, Jhamman Singh, Krishna Lal, Makhan Lal Srivastava, Phundan Lal Mathur, Ram Ballabh Saran Agarwala, Ram Din Varma Johari, Shanker Sharan, Shiam Sarup Sharma, Triloki Nath Sharma, Bhagwati Parasad Varma, Bind Basni Parasad Varma, Durga Parasad Mushran, Harsaran Das Agarwala, Kanh Kumar Mathur, Kamta Parasad Shukla, Khwaja Amir Ahmad Ansary, Kunwar Krishna Narain Sen, M. H.M. Farrokh, Mirza Md Abdul Aziz Beg, Narayan Das Kapur, Payamber Bakhsh, Ram Gopal Purha, Rama Shankar, Syed Kabul Ahmad, Sedasheo Vithal Puranik, Santosh Kumar Muknopadhaya, Sumitra Nandan Sahaya, Anil Kumar Mukerji, Badri Narain, Bhagwan prasad Varma, Chandra Datt Pant, Dayanand Joshi, Dunne, D. S. (Miss) Govind Ballabh Pande, Gulabchand Shrimal, Guru Charan Lal Varma, Hari Shankar, Lakshman Prasad Singh, Mohammad Aliyas Adhami, Moreshwar Narayan Mendhekar, Poorana Chander, Ram Dutt Joshi, Rudra Prakash Sinha, Shyam Kishoe Shrivastavya, Aga Mohamed Sibtain, Anjani Nandan Gaur, Banwari Lal Mathur, Bindbasni Prasad, Dava Ram Singh Gautam, Frederic William Weguelin, Girja Prasad Srivastava, Gauri Sahai Khare, Gur Prasada Dhawan, Jagdambika Prasad, Kamta Nath Sinha, Kamta Prasad Sinha, Kunj Bihari Lal Srivastava, M. A. Haleem M. Muhammad Ismail, Mohan Lall, Ram Prasad Pardhan, Samel P. Andrews, Sushi Chrndra Mukerji, Syed Mhd. Manzoor Ali, Tryam Bakeshwar, Uma Shauker, Aminulla Khan, Ahmad Husain A. M. Nasiruddin, Abdul Haq Malik, A. M, Naziruddin Khan, Ch. Sardar Khan; Ch. Shah Mohammad, Ghulam Panjtan Syed, Ghausi Jsmil-ud-din H. M. Hayat, Istafa Karim, Israil Haque, Kamal-ud-din, Kazi Abdul Hameed, Karimur Raza Khan Wani, Karam Ilahi, Khuda Baksh, Mohd. Zamir-ud-din Mohd. Nazir-ud-din, Mohd. Ismail Khan, Mohd. Anas Khan, Mohd. Yar Khan, Mohinuddin Ahmad, Munsait Ali, Mohd. Mustafa Khan, Mohd. Lutfullah Khan, Ali Chowdry M. Mohiuddin, Mohd. Ahmad Khan, Mohd. Mohibullah, Nasirul Haq *alias* M. Bashirul Haq Qurashi, Qazi Abdullah, Syed Zulfiqar Ali Haqani, Syed Mohd. Abdullah, Syed Husain, Syed Muhhtar Nabi, Syed Husain Risvi, Syed Ahtisham Ali, Syed Ali Haider Shah, Sultan Hasan Mirza, Madan Gopal Capoor, Raziuddin Khan, Shiam Behari Lal, Bhirgu Narryan Sinha,

Harihar Nath, Indra Deva Sahai, Kailash Chandra Bajpai, Mirza Aziz-ud-din Ahmad, Munna Lal, Thakur Des, Amrita Lall Mukherjee, Baldeo Narayan Sinha, Birj Bihari Singh, Ganga Datta Padde, Harendranath Mukherjee, Jwala Sahai, Kansturanand Joshi, Nand Kishore Agarwala, Palghat Subrahmanian, Prakash Chandra Choudhuri, Ram Prayad Tripathi, Suraj Nath Singh, Surendra Datta Nautiyal, Suresh Chandra Sen Gupta, Balaji Madhava Laghate, Banarsi Lal, Chandra Sewak Misra, Drummond Henry, Ehsan Ali, Mohammad Hafiz Syed, Mohammad Yaqub, Narbadeyshwar Avasthi, Nando Lall Gangopadhya, Rajindra Lall Mittra, Shivadhar Bajpai, Amir Mohammad, Badar Bahadur Singh Sarkari, Balram Kishore Tandan, Bije Bahadur, Ganga Dayal Khaney Kanahia Lal, Kunwar Dwarka Singh, Mohamed Rashid Ali Abbasi, Shankar Sahai Srivastava, Trilok Nath Bhargava, Uttam Narain Wali, Bishambhar Nath Srivastava, Bishan Narain, Lakshmi Sahai, Md. Abdul Khair, Narain Chandra Bose, Raghubar Dayal Srivastava Charan Das Mital, Girdhari Saran, Hari Shankar Vidyarathi Kailash Chandra, Lakshmi Narayan Vaish, Murari Lal Vaish, Shrotriya Vishnu Swarup, Moti Lal Sharma, Ram Saran Tewari, Roshan Lal Goyal, Shadi Lal Mathur, Srikrishna Agarwal, Umaro Bahadur Mathur, Mangi Lal Sharma, Gopal Krishna Vaidya, Ganesh Gangadhar Apte, Gangadhar Bapuji Khare, Purshottam Waman Chaskar, Sadashiv Vishnu Chaudhuri, Shantaram Ramchandra Singe, Vishnu Vishwanath Soman, Waris Mohammed Khan, Bakshi Himetlal Kalyanrai, Chandu Lal, Dattateaya Gangadhar Namjoshi, Dighe Dattatray Amrit, Raghunath Martand Rajderkar, Ramchandra Vithajrao Indapwar, Sreenibas Seal, Sudarshan Prabhakar Patil, Vasudeo Sitaram Sathe, Yeshwant Hari Godhole, Abdul Rahim, Gopi Lal Girdhari Lal Srivastava, Gajadhat Kanhaiya Lal Tiwari, Kashi Prasad Srivastava, Manohar Lal Guru, Shantaram Govind Rao Pulkarni, Trimbak Shanker Kaithaukar, Uma Shanker Srivastava, Barat Sib Chandra, Bailey Ronald Joseph, Damle Vishwanath Bhasker, Dashotrar Bansidar Sadasheo, Deshpande Manohar Balkrishna, D'Souza William Francis, Sole Sawlaram Purshuttam Palsole Govind Balkrishna, Pathak Righunath Ramchandra, Pophli Vithal Ramchandra, Salanka Vishwanath Undraji, Sindekar Vithun Damodat, Sohonee Gopal Krishna, Davidas Vinalak Maha shur, Girijt Nandan, Gopal Gangadhar Karandikal Laxman Pralhad Fadnavis, Mannulal, Mulidbar Narain Mule, Muriidhar Krishna Hatdas, Nilkan Balwant Deshpande, Shamao Gondnram Salkal. Vishnoo Waman Bhave, Vishun Keshao Palkal. Murli Dhar Kackar, Suraj Paasad, Bin Mohat Lal Verma, Madan Gopal, Balgnbind Mathur Mohammad Kasim Zibery, Syed Ehsan Husain, Balkrishna Santooiam Gadkari.

Intermediate Exam. 1912 Results.

At the Intermediate Examination of the Allahabad University held in April 1912, out of 1450 candidates that appeared, 11 passed in the First Division, 179 in the Second Division and 410 in the Third Division.

Matric Exam. 1912, Results.

At the Matriculation Examination of the Allahabad University held in April 1912, out of 3400 candidates that appeared, 21 passed in the First Division, 516 in the Second Division, 712 in the Third Division.

Affiliations.

Muir Central College, Allahabad up to M. A. in Economics with effect from 16th July 1912. Christian College, Allahabad up to M. A. in Economics with effect from 1st July 1912. C. H. College, Benares up to M. A. in Philosophy with effect from 1st July 1912.

MADRAS UNIVERSITY.

Matric. Result 1912.

In the Matriculation Examination of the Madras University held in March 1912 out of 622 candidates that appeared **two** passed in first class, **thirtytwo** passed in the second class, **one hundred and three** in the third class.

PUNJAB UNIVERSITY.

Additional Test in Chemistry.

The following is the programme of Additional Test in Chemistry Examination, 1912 :—Written Paper— 20th June 1912 at 7 A. M., Practical Paper—21st June 1912 at 7 A. M.

TECHNICAL EDUCATION

Veterinary College Bengal

In connection with the recent administrative changes in Bengal it is proposed to provide a Civil Veterinary Department for each of the Provinces of Bengal, Behar and Orissa and Assam, with a separate Superintendent for each Province. It is understood that the Veterinary and Agricultural Educational Institutions for the three Provinces will be the existing Veterinary College at Belgachia and the Agricultural College at Sabour.

Veterinary College Bombay

The Bombay Government are deputing one of the Indian veteriners at the Bombay Veterinary College to England to go through a course of instruction in Bacteriology and Pathology at the Liverpool University and the Royal Veterinary College London.

New Forest College Madras Presidency

The new Madras Forest College at Coimbatore, the scheme for which is now complete, is to be opened on July 1st in which month the college course will begin annually. For the first year the college will start with a principal and two assistant instructors. The former being recruited from the Imperial Forest Survey and the latter from the Provincial Service. This year students are to be confined to the Madras Presidency only, but from next year Bombay and the Native States will be allowed to send a certain proportion to the college and private students will also be admitted.

A school of Hygiene

The Mysore Government have sanctioned the opening of a School of Hygiene at Bangalore, tentatively for two years, for the training of candidates as Sanitary Inspectors, which appointments in the state will in future be filled only from among those who have passed through that school.

Two lakhs for the Victoria Technical Institute, Bombay

It is understood that the Government of India have placed a grant of two takhs at the disposal of the Government of Bombay for the Victoria Technical Institute.

The annual dinner of the Indian Mining and Geological Club took place at London, Mr. W. H. Pickering presided.

Indian Mining and Geological Club Annnal Dinner

Sir Thomas Holderness, proposing the toast of the parent institute in India, said there was no reason to suppose that its usefulness would be affected by the change of capital. The prosperity and business foundation of Calcutta were far too deeply laid for that.

Sfr Thomas Holland regretted that the committee of Technological Students did not include some one with practical acquaintance with Indian industries as for instance their guest Sir Dorabji Tata. The solution of the problem would be found in the evidence collected in India and not here. With reference to the proposal for a school of mining at Asansol, he thought that a preferable course would be to strengthen the evening classes on the coal-fields and add a Professorship of Geology to the Sibpur College with a view to turning out good prospectors from the present Mining Department. It was most important not to destroy the individuality of the Sibpur College.

Mr. W. H. Pickering, founder of the Institute, said that the Morison Committee would look at the question from a practical as well as from an academic point of view, seeing that Mining Engineers were a back bone formed by practical experience.

Sir Dorab Tata said he recognized that Iron and Steel Works at Sakchi would not have been possible but for the full support they had received from first to last from the Government of India. He trusted the Works would greatly contribute to the economic prosperity of India,—a work in which the English and the Indians could combine.

OTHER EDUCATIONAL ADVANCES

THE HINDU UNIVERSITY

The Deputation at Moradabad

The Hindu University deputation headed by the Maharaja of Darbhanga and the Hon. Pandit M. M. Malaviya visited Moradabad last week. It consisted of the Hon. Raja Rampal-Singh, Babu Bishambhar Nath of Cawnpore, Pandit Gokaran Nath Misra of Lucknow, Thakur Mahadeo Singh Band Pandit Sarmeshwar Nath Sapru of Fyzabad, and Bajpaye Chandrabhal, talukdar of Unao. The deputation was most enthusiastically received at the railway station which had been nicely decorated for the occasion. The Maharaja of Darbhanga and Pandit Malaviya were presented with an address on behalf of the citizens of Moradabad at the railway station. The members of the deputation, some on elephants and some in carriages, then marched through the town. The streets through which they passed had been well decorated for the occasion. At most of the places the decoration was simply superb. Women and children assembled in large numbers on the roofs and balconies to welcome the deputation. Flowers were showered, *attars* were offered and *pan* and *ilaichi* were distributed throughout the route. Cries of 'Hindu Dharm Ki Jai, and 'Hindu Vishwa Vidyalaya Ki Jai' were heard throughout.

The meeting for the collection of the subscription was held on the evening of the 2nd June on the grounds of the town hall. No less than 10,000 people were present. Kunwar Rajkumar of Sahaspur Belari was voted to the chair. The Maharaja Bahadur, Raja Rampal Singh, the Hon. Pandit Malaviya and Pandit Gokaran Nath Misar addressed the meeting. Several verses in Sanskrit, Urdu and Hindi, composed for the occasion, were recited. The Hon. Pandit Malaviya spoke most eloquently pointing out the benefits derived by the country from the British Government, the advancement made in the path of education under the aegis of the British rule and the necessity of further advancing the cause of education by establishing universities throughout the country. He then described what would be taught in the Hindu Universty and appealed to the audience most fervently to subscribe liberally towards the funds of the University.

After the Hon. Pandit's speech donations already subscribed were announced. Several large sums were subscribed on the spot. In the end the total was found to have gone up almost to a lakh and a half. The meeting lasted fully four hours and intense enthusiasm prevailed throughout. In the night the principal streets of the town were all illuminated. The success of the deputation is chiefly due to the unfailing exertions of the Hon. Babu Brijnandan Prasad, Sotie Shankar Sarup and Babu Brijnath, members of the local committee.

At Naini Tal

The Hindu University deputation headed by the Maharaja Bahadur of Durbhanga, the Hon. Pandit Madan Mohan Malaviya, Babu Sheo Prasad, Seth Ram Kumar and other members of the deputation reached here on the morning of the 7th June. The R, K. Railway godown was very well decorated for the reception. On the same evening a great enthusiastic meeting under the presidency of Raja Udairaj Singh of Kashipur was held in the Assembly Hall. Great enthusiasm prevailed. Rs. 55,000 were subscribed on the spot, Raja Lalta Prasad of Pilibhit subscribed Rs. 14,000 exclusive of Rs. 11,000 which he has already subscribed at Bareilly,

The deputation will go to Almora and then to Hardwar.

Cawnpore Subscriptons

Rai Pandit Iqbal Narain Gurtoo M. A. Honorary Head Master, Central Hindu College Benares, is on a visit to Cawnpore to realise subcriptions for the proposed Hindu University. Cawnpore has so far sent nearly Rs. 40,000 in cash to the Head quarters.

THE MOSLEM UNIVERSITY.

Constitution Committee Meeting

The Muslim University Constitutions Committee is sitting at Lucknow under the presidency of the Hon. Raja of Mahmudabad. The Chairman stated that when the draft regulations had been passed by the committee they would be published for criticism. Thirty two members from Bengal, Bombay, Punjab and Frontier Province are present.



Congress of the Universities of the Empire.

The following is the programme of papers and discussions at the Congress of the Universities of the Empire to be held at the London University in July :—

TUESDAY, JULY 2.

10 a.m.—Chairman, The Right Hon. the Earl of Rosebery and Midlothian, K.G., K.T., D.C.L., L.L.D., Chancellor of the Universities of London and Glasgow, and Lord Rector of the University of St. Andrews, by whom the Congress will be opened.

(1) Question of division of work and specialisation among Universities, *Paper* by Sir Alfred Hopkinson, Vice-Chancellor of the Victoria University of Manchester.

(2) Inter-University arrangements for post-graduate and research students, including the questions of reciprocal recognition of courses for post-graduate degrees, co-operation in post-graduate courses and specialisation in post-graduate courses along special lines among Universities, *Paper* by Principal Peterson, McGill University of Montreal.

WEDNESDAY, JULY 3.

10 a.m.—Chairman, The Right Hon. the Earl Curzon of Kedleston, G.C.S.I., G.C.I.E., D.C.L., LL.D., Chancellor of the University of Oxford.

(1) The relation of Universities to technical and professional education and to education for the Public Services, *Papers* by Professor A. Smithells, University of Leeds, and Mr. Stanley Leathes, C.B., First Civil Service Commissioner.

(2) Interchange of University teachers; conditions of interchange, *Paper* by Dr. J.W. Barrett, University of Melbourne.

3 p.m.—Chairman, The Right Hon. A. J. Balfour, D.C.L., LL.D., M.P., Chancellor of the University of Edinburgh.

(1) The problem of Universities in the East in regard to their influence on character and moral ideals, *Papers* by Sir Frederick Lugard, G.C.M.G., C.B., D.S.O., Governor of Southern Nigeria and Commander-in-Chief of Northern Nigeria, late Governor of Hongkong and Chancellor of the University of Hongkong, and Dr. J.C.R. Ewing, Vice-Chancellor of Punjab University.

(2) Residential facilities, including colleges and hostels, in connection with Universities, *Paper* by Mr. E. B. Sargant, Member of the Royal Commission on University Education in London.

THURSDAY, JULY 4.

10 a.m.—Chairman, The Right Hon. Lord Rayleigh, O.M., Sc.D., D.C.L., late P.R.S., Chancellor of the University of Cambridge.

(1) Conditions of entrance to Universities and the possibility of equivalence and mutual recognition of entrance tests to Degree courses, *Paper* by Mr. P. E. Matheson, Oxford Secretary of the Oxford and Cambridge Schools Examination Board.

(2) Action of Universities in relation to the after-careers of their students, *Papers* by Mr. H. A. Roberts, Secretary of the Cambridge Appointments Board, and Miss M. G. Spencer Secretary of the Central Bureau for the Employment of Women.

3 p.m.—Chairman, The Right Hon. the Viscount Haldane, D.C.L., LL.D., K.C., Chancellor of the University of Bristol.

Provision of courses of study and examination for other than Degree students, including University Extension and Tutorial Class work and specialised courses both of a general and technical character of students engaged in professional, commercial and industrial pursuits. *Paper* by Mr. J. A. R. Marriott, Secretary of the Oxford University Extension Delegacy, and Rev. D. H. S. Cranage, Secretary of the Cambridge University Extension Syndicate, conjointly.

FRIDAY, JULY 5.

10 a.m.—Chairman, The Right Hon. Lord Strathcona and Mount Royal, G.C.M.G., G.C.V.O., D.C.L., LL.D., Chancellor of the Universities of Aberdeen and McGill.

(1) The establishment of a Central Bureau; its constitution and functions, *Paper* by Dr. G. R. Parkin, C.M.G., Organising Secretary of the Rhodes Scholarship Trust.

(2) The position of Women in Universities, *Paper* by Miss. H. M. White, Principal of Alexandra College, Dublin.

(3) Representation of Teachers and Graduates on the Governing Body of a University, *Paper* by Sir James Donaldson, Vice-Chancellor and Principal of the University of St. Andrews.

The following is the programme of entertainments offered to Members of the Congress :—

Monday, July 1st (Evening).—British Academy: "The Shakespeare Lecture," by A. C. Bradley, LL.D., Litt.D., F.B.A., sometime Professor of Poetry in the Univertiy of Oxford.

Tuesday, July 2nd.—Luncheon to Delegates by invitation of His Majesty's Govermment at the Savoy Hotel. 4.30-6 : The Committee of the London School of Medicine for Women at Home at 8, Hunter Street, W.C. Evening : Reception of Delegates by H. R. H. Prince Arthur of Connaught, K.G,, G.C.V.O., President of the General London Committee, at the University of London, and Conversazione.

Wednesday, July 3rd.—The Worshipful Companies of Fishmongers, Merchant Taylors, and Clothworkers invite to Dinner at their several halls Delegates from Overseas and the ladies by whom they are accompanied. Mrs. Sargant At Home at Claridge's Hotel.

Thursday, July 4th (9-11.30 p.m.)—The Right Hon. the Lord Mayor At Home at the Mansion House.

Friday, July 5th (Evening).—Reception by the Countess Beauchamp at 13, Belgrave Square.

The Royal Colonial Institute offers Honorary Membership to all Members of the Congress during Congress week and to all Delegates from Overseas for so long as they may remain in the United Kingdom. Application should be made to the Secretary of the Royal Colonial Institute, Northumberland Avenue, W.C.

The Royal Societies Club offers Honorary Membership for one month to all Delegates from Overseas. Application should be made to the Secretary of the Royal Societies Club, St. James's Street, S.W.

LONDON UNIVERSITY.

Presentation Day.

The Presentation of graduates to the Vice-Chancellor took place in the Great Hall of the University Wenesday, May 8th.

On arriving at the University, the Vice-Chancellor was received by, and inspected, a Guard of Honour furnished by the University Contingent of the Officers Training Corps, with Capt. John Cameron in command.

The Right Hon. the Lord Mayor of London and the Lady Mayoress were also received by the Guard of Honour.

Two processions to the Great Hall were formed, one consisting of the Presentees, the other of the Guests of the Senate, the Chairmen of Boards of Studies, the Principal Officers of Schools of the University, Members of Committees, the Clerk of Convocation, the Official Staff, the Deans of the Faculties, Ex-Senators, the Senate, the Public Orator, the Principal, the Chairman of the London County Council, the Lord Mayor, the Member of Parliament for University, the Chairman of Convocation, and the Vice-Chancellor (preceded by the Esquire Bedell). The Marble Hall was lined by members of the University Contingent of the Officers Training Corps.

At the request of the Vice-Chancellor, the Principal read his Report on the work of the University for the past year.

Summary of Results of the Examinations

(Year 1911-12.)

Certificates and Diplomas.

Examination	Total Number of Candidates who passed.	Honours and Distinctions,
Junior Certificate in English, ...	11	
Certificate in Religious Knowledge ...	2	
Diploma in the Humanities ...	2	Gilchrist Medal for Literature, 1, Churton Collins Memorial Prize, 1.

Undergraduates.

(In reverse order of Faculties.)

Examination.	Total Number of Candidates who passed.	Honours and Distinctions
Matriculation, June, 1911,	Matriculation 1,241	
	Supplementary Certificate, 29	
September, 1911,	Matriculation 334	
	Supplementary Certificate. 12	
January, 1912.	Matriculation 837	
	Supplementary Certificate, 19	
School Examinations, July, 1911,	Higher Examination Senior Examination (for Matriculation) 581	Higher Standard Papers Latin, 1.
	Subjects Supplementary to School Examination (Matriculation Standard) 60	
School Examinations, December, 1911,	Senior Examination (for Matriculation) 32	
	Subjects Supplementary to School Examination (Matriculation Standard),	
Intermediate Economics,	52	
Intermediate Engineering	174	
Intermediate Engineering (Mining and Metallurgy),	1	Honours :—Mathematics, 3, Exprimental Physics, 10, Chemistry 8, Botany, 1, Geology, 1
Intermediate Science ...	473	
Intermediate Science (Agriculture) ...	6	
Preliminary Veterinary Science, July, 1911 ...	2	
Preliminary Veterinary Science, December, 1911.	1	
Intermediate Veternary Science, Part I, December, 1911, ...	3	
First Examination for Medical Degrees, July, 1911.	114	Distinguished :—Inorganic Chemistry, 3, Physics, 3, General Biology, 5.
First Examination for Medical Degrees, December, 1911, ...	66	Distinguished : Inorganic Chemistry, 3, Physics, 3, General Biology 2.
Second Examination for Medical Degrees, Part I, July, 1911,	51	Distinguished : Organic Chemistry, 2
Second Examination for Medical Degrees, Part I. March, 1912, ...	98	Distinguished : Organic Chemistry, 1.
Second Examination for Medical Degrees, Part II, July, 1911,	54	Distinguished : Anatomy, 5, Physiology, 3, Pharmacology, 4.
Second Examination for Medical Degrees, Part II, March, 1912.	78	Distinguished : Anatomy, 1, Physiology, 1, Pharmacology, 2.
Intermediate Music ...	2	
Intermediate Laws ...	34	
Intermediate Arts ...	587	Honours : Latin, 4,, Greek, 2, English 28, French, 6. Logic, 2 History, 5,
Intermediate Divinity ...	46	

Graduates.

(In reverse order of Faculties.)

Examination,	Total Number of Candidates who passed.	Honours and Distinctions.
B.Sc. (Economics)		Honours : 14, (Gladstone Memorial Prize, 1.)
B,Sc, (Engineering) ...	113	Honours : 39.
B,Sc, Engineering (Mining and Metallurgy)	4	

Examination.	Total Number of Candidates who Passed.	Honours and Distinctions.
B. Sc.	404	Honours: Mathematics, 18, Astronomy, 1, Physics, 36, Chemistry, 79, Geology, 9, Botany, 28, Zoology, 2, Physiology, 9.
B.Sc. by Research ...	2	
B.Sc. (Agriculture) ...	2	
B.S.	3	
M.B., B.S.	94	University Medals, 2; Honours, 8, the Distinctions being: Medicine, 7; Forensic Medicine and Hygiene, 2; Surgery, 2; Midwifery and Diseases of Women, 1.
B.Mus.	1	
LL.B.	30	Honours:—18; University Scholarships, 2.
B.A.	418	Honours: Classics, 37, Mathematics, 7, Architecture, 1, Mediæval and Modern Languages, 110, (George Smith Studentship, 1,); Hebrew and Aramaic (including Syriac), 2, Philosophy, 10. History, 50.
B.D.	38	Honours: Hebrew and Aramaic (including Syriac), 1, Greek New Testament and Apocrypha, 3, Church History, 2. Study of Religion, 3.
Teacher's Diploma ...	94	Excelled in the Written Examination, 2; Excelled in the Practical Examination, 4.
M.A.	32	Ditsinguished, 3.
D.Sc. (Economics) ...	2	
D.Sc. (Engineering) ...	1	
D.Sc.	10	
M.D.	54	University Medals, 3.
M.S.	7	
LL.D.	4	
D. Lit.	5	

Post graduate Degree in Education at Edinburgh University

Edinburgh University is considering the institution of a post-graduate degree in education. The subjects of examination suggested are logic, metaphysics or moral philosophy, psychology (general and special), history of education, experimental pedagogy, comparative education, and educational administration. Candidates, will also be required to present a thesis and give evidence of having undergone a course in theory and practice of teaching and of possessing a reading knowledge of French or German or Italian. There is no British University at present which grants a separate education degree, though the subject may be taken at London as part of the B. A. course.

Lord Iveagh's gift to Dublin University

Lord Iveagh has given the Provost of Dublin University £10,000 for the benefit of the department of Geology and Mineralogy. Ten years ago his lordship presented the university with the laboratory of experimental and botanical science.

THE WORLD OF UNIVERSITIES

OXFORD UNIVERSITY.

SCHOOL OF GEOGRAPHY.

SYLLABUS OF THE SUBJECTS OF EXAMINATION, 1912–13.

Part I.

GENERAL AND REGIONAL GEOGRAPHY.

Two written papers and one practical paper.

The cartographical analysis of the physical regions of the world. An elementary knowledge of the chief generalizations regarding the surface-forms of the land, the movements of air and water, and the distribution of plant-associations, animals, and man. The chief facts of modern economic and political geography considered in relation to the influence of physical and biological conditions. A more detailed knowledge of the British Isles and British Lands beyond the Seas.

In connexion with this subject, candidates will require to be familiar with the principles of field map-making, by plane-table, prismatic compass, clinometer and aneroid, the representation of relief, the preparation of distributional and statistical maps, the orientation, reading and measurement of maps.

Part II.

Subject 1 below and any two of the other nine subjects, in each of which there will be two papers, one of which may be wholly or partly practical. There will also be a viva voce examination.

1. Geographical Account of a Selected District.

Detailed geographical account of a selected district, based on personal observations and on a study of maps, statistical returns, and books.

2. Special Regional Geography.

A very thorough knowledge of selected regions. In 1913 India and France. (Candidates will be required to read French.)

3. Climatology and Oceanography.

The distribution of solar energy on the rotating Earth and the resulting circulations of air and water. The climatic provinces of the Earth. Methods of meteorological investigation. Oceanic conditions and the methods of observing and representing them.

In connexion with this subject, candidates may be required to reduce, tabulate, and plot observations of atmospheric pressure, Winds, temperature, and rainfall; or of oceanic depths, temperature, density, and salinity.

4. Geomorphology.

The characteristics, history, and distribution of typical land forms, especially of mountain systems, river courses and river basins, and coastal belts, The configuration of the continents and of the bed of the ocean. In 1913 a more detailed knowledge of the morphology of North America.

5. Biological Geography.

The character and distribution of the chief plant formations and associations and their animal life. Centres of origin and means of dispersal of plants and animals. Floral and faunal regions and their history. Origin and distribution of plants and animals of economic importance. Special biolgical geography of one continent. In 1913 America.

6. Economic and Political Geography.

The geographical distribution of Man according to race, language, and economic, social, and political conditions. The geographical economic and strategic conditions of social and political organization in the various regions of the World, especially those of economic and historical importance. The main lines of communication, commerce, and migration. Special attention should be given in 1913 to either (*a*) the geographical factor in colonization, or (*b*) the internal conditions and the external relations (economic, strategic and political) of a selected region. In 1913 British Isles, Russia, China and Japan.

7. Ancient Historical Geography.

A general knowledge of the historical geography (economic, strategic, and political) of the Roman World, considered in relation to the influence of physical features. A more detailed knowledge of the historical geography of Greece and Italy.

8. Modern Historical Geography.

A general knowledge of mediæval and modern historical geography (economic, and political), considered in relation to the influence of physical features. In 1913 a more detailed knowledge of the historical geography of Western and Central Europe and of North America.

9 The History of Geography, including the History of Discovery.

The history of geographical ideas and methods. The outlines of the history of discovery. In 1913 a more detailed knowledge of the history of physical geography, and of the exploration and mapping of North America, including the West Indies.

10. Surveying.

(1) Field sketching and reconnaissance; (2) Geographical ahd exploratory surveying and mapping; (3) Topographical surveying; (4) Principles of Geodetic surveying; and any one of the following; (5) Engineering surveying, (6) Cadastral surveying; (7) Hydryographical surveying, (8) Magnetic surveying, and (9) Advanced Geodesy.

Under (1) will be included—Scales, Copying, reducing and enlarging maps. Conventional signs: Representation of hill features. Under (2) and (3)—Base-lines. Triangulation. Traverses. Tacheometry and subtense methods. Levelling, determination of altitudes, and contouring. Map projections and graticules. Latitude, Longtitude, and azimuth. The making of statistical and other geographical maps. Under (4) a general knowledge of the shape and dimensions of the Earth, and of allied problems, such as local attraction.

Candidates will be required to be familiar with the use of the theodolite, sextant, plane-table, prismatic compass, clinometer, level,

aneroid and mercurial barometer, boiling-point thermometer, and planimeter. They may be required (*a*) to measure a base-line, to plan and execute a triangulation over a prescribed area, and to determine the position of a given point, (*b*) to draw the network of a map to satisfy given requirements, (*c*) to execute a map of a limited area.

Any work previously executed in any of these subjects by the candidate himself may be submitted and will be taken into account.

Fees,

For each Course of Lectures ... 10*s.* a Term.
For Tuition and Practical Work, each course ... ... £2 a Term.
One period of Instruction in Surveying per week ... ... £2 10*s.* a Term.
For each additional period per week ... ... £2 10*s.* a Term.
For Tuition in Surveying, Vacations, six weeks' Course ... £10 for the Course.

[N.B.—This Vacation Course can be arranged only if fees to the amount of at least £30 are guaranteed.]

Members of the University of Oxford are admitted to the lectures, but not to the classes, without fee.

Composition fee, admitting to the Diploma Course*—
For members of the University ... £15.
For persons who are not members of the University ... ... £18.

Students taking more than three Terms will be charged two-thirds fees for Terms after the third.

Composition fee, admitting to the complete Certificate Course*—
For members of the University .. £9.
For persons who are not members of the University ... ... £12.

Additional fee for supplementary tuition to undergraduates preparing for the Certificate or Diploma Examination, together with a terminal report to their College authorities, £2 per Term.

*This may be paid in terminal instalments. In the case of Students taking Surveying an additional fee of £5 for the complete course is required. This will include the fee for a special field course in Summer, lasting about four weeks,

WISCONSIN UNIVERSITY U. S. A.

Record of Work of 3 scholars of the District Council of National Education, Malda, Bengal.

I. Khagendra Narain Mitra
II. Nabin Chandra Das
III. Rajendra Narain Chowdhury.

I.

During the past Semester I studied the following subjects under the "College of letters and science." The class-adviser arranged the courses I took in such a way as to help me in future in studying the subject I shall major in : *i.e.* Biology.

1.	Biology covering	5	credits.
2.	Physics ,,	4	,,
3.	German ,,	4	,,
4.	English ,,	2	,,
		15	,,

Students studying in the "College of letters and science" are expected secure 14, 15, or 16 credits in each semester.

1. Biology,—In this course of Biology the first semester is devoted to study its general principles as illustrated by plants ; the second to Zoology. This course consists of theoretical lectures as well as practical demonstration. There is no fixed text-books at all. Students are to follow the lecture very carefully and then to study the matter contained in it elaborated in any book they think suitable ; or sometimes the lecturer himself deems it better to assign the readings to the students. For the study of the theoretical portions of the course I have gone through the following pages of several books mentioned below :—

1. Nature and development of plants by Carton C. Curtis A.M. Ph. D. Pages 155—168,—Chlorophyll, 195-229,—Nature of fungi,—Urodinæ.

2. Practical text-book of plant physiology by Daniel Trembly Mc. Dougal Ph. D. Pages, 10—38,—Relations of plants to mechanical forces. 39—64,—Influence of chemicals upon plants.

3. The cell in development and inheritence by Edmund B. Wilson Ph. D. Pages,—1-99,—General Sketch of the cell ; cell division.

4. Experiments with plants by W. J. V. Osterhout Ph. D. Pages, 361—406,-plants which cause decay.

5. A text-book Botany by Dr. Edward Strasburger. Pages, 81—87. Ontogeny of the cell.

6. The cell,—outlines of general anatomy and physiology by Dr. Oscar Hertwig. Pages 1—45,—the History of the cell, the history of the protoplasmic theory ; the chemical and morphological properties of the cell ; the chemical and morphological properties of nucleus. Pages 179—235,—nuclear segmentation ; Mitosis ; Karyokinesis ; direct nuclear division ; Fragmentation ; amitosis ; Various methods of cell-multiplication. Pages 334—361,—History of the older theories of reproduction and development ; the nucleus as the transmitter of hereditary germs.

7. A manual of Botany by J. Reynolds Green Sc.D. F. L. S. Vol 1. Pages 271—369, —The vegetable cell ; Formation of cells ; Tissues ; Tissue-system ; the structure of the root.

8. (The same author) Vol II. Pages 383-394,—The relation of water to the protoplasm of the cell ; the transport of the water in the plant ; the skeleton of the plant ; the transpiration current ; root-pressure ; transpiration ; the food of plants,—Introductory ; the absorption of food material by a green plant ; the chloroplasts and their function ; reserve material and their deposition ; digestion of reserve materials ; the catabolic processes ; the respiration of plants ; Growth ; influence of the environment on plants ; the relation of the plant to its environment,—Irritability ; special senses and its results ; the nervous mechanism of plants ; automatism—rythm ; Reproduction.

So far as the practical side of the subject is concerned I performed 30 experiments explaining the general anatomy and physiology of plants with the aid of the text-book, "Laboratory direction of General Botany."

2. Physics,—This course also consists of two parts,—i. Theoretical.

a. Text-book, "Notes on Physics" by Benjamin Warner Snow Ph. D., himself the lecturer in this course in the Wisconsin University. Pages 1-359,—Mechanics (solid, liquid, gas) ; Heat ; Static electricity, magnetism. The rest of the subject is being taught in the second semester.

ii. Practical.

a. Text-book,—'Laboratory notes in Physics, by O. A. Gage Ph. D. himself the laboratory Superintendent.

b. The required experiments performed:—

(1) Comparison of the inch and the centimeter.

(2) Determination of the density of the solid.

(3) The spherometer.

(4) Uniformly accelerated motion. Inclined plane.

(5) Linear uniformly accelerated motion. Freely falling bodies.

(6) Simple harmonic motion,—the pendulum.

(7) Equilibrium of parallel forces.

(8) „ „ non-parallel

(9) Efficiency of the pulley.

(10) Elasticity.—Determination of Young's Modulus.

(11) Specific gravily of a solid ; principles of Archimedes.

(12) Water pressure.

(13) Determination of the specific heat of a metal.

(14) „ Cœfficient of expansion of a gas at constant volume.

3. German.—

1. Text-book.—"Introduction to German, by Edward Proksech Ph. D. Assistant Professor of German in U. of Wis.

2. Subject matter.

a. Grammar.

(1) Declension of nouns, adjectives etc.

(2) Conjugation.

(3) Un-inflected.

(4) Syntax.

b. Text. 18 stories, illustrative of those grammatical rules and principles.

c. Translation of simple and Compound sentences into German.

d. Conversational work mainly based on the text covering 1-150 pp.

4. English.—This course mainly deals with the principles of composition concerning all the aspects of human knowledge, such as disposition of thoughts, descriptions, narrations business and complicated machine parts etc I had to submit 10 required themes containing 500-3000 words. There is no text book in this course. I studied some articles assigned by the Professor.

Results of the final Examination.

1.	Biology	...	... 76
2.	Physics	...	... 82
3.	German	...	... 76
4.	English	...	... 79

I have taken up the following subjects in the current semester.—1. Biology, 2 Physics, 3. German; and dropped the course in English.

KHAGENDRA NARAIN MITRA.

II.

A detailed description of the subjects I took in the first semester 1911.

Results	Names of subjects	No of Credits	Weekly hour per subject.	Remarks-marks
Fair, $\frac{81}{100}$	I. General College Physics	5	9 (4 lectures, 4 lab. 1 recitation)	
Fair, $\frac{81}{100}$.	II. German	4	4	
Excellent $\frac{95}{100}$	III. Psychology	3	3 (lectures,) 1 recitation)	
Conditioned $\frac{67}{100}$	IV. Money and Banking Political Economy	5	3	
V.	Commercial Geography	3	3	

My adviser first gave me 18 credits. But so many credits are not allowed to a beginner in the Letter and Science Dept; Therefore I was, continuing it for a month in Geography. But I attended the lecturers throughout the semester, though I was not allowed credits.

I. Physics. (Same as I)

II. German. (Same as I)

III. Psychology

i. Text Book

"Psychology" by William James
The whole book finished. pp. 450

ii. Frequent references to some selected chapters

1. Tichener's "A Text book of Psychology" 2 vols.
2. Stout's "Manual of Psychology"
3. James' "Principles of Psychology" 2 vols.
4. Morgan's "Introduction to comparative Psychology"
5. Articles from Psychological Review.

IV. Money and Banking

i. Text Book.

"Money and Banking" by W. A. Scott Ph. D., pp. 300. Director of the course of commerce.
The whole book finished except the concluding chapters.

ii. References to some selected chapters of

1. Laughlin's "The Principles of money" ch. I, XII, XV, III, VI, VII, VIII, IX.
2. Johnson's "Money and Currency" ch. 1,2,3,6,13
3. Jevons "Money and the Mechanism of Exchange." ch 1, 2. and 3, 4.
4. Mill's "Political Economy" Book III. ch. VII, X, VIII, IX.
5. Macleod's "Theory and Practice of Banking, Vol. I" ch IV. see ii.
6. Bagehot's "Lambard Street"
7. Walker's "Money" ch. 1, iii-viii
8. Nicholson's "Money and Monitory Problems chap. IV, pt II chap. VII, V-VII

V. Commercial Geography

No fixed text books. We had to depend mainly upon lectures.

NABIN CHANDRA DAS.

III.

1. English :—3 credits.—absent.

(*a*) Text-books :—

(i) A college course in writing from models ... ... P. 200.
(ii) Woolley's hand-book ... P. 142.
(iii) ,, Exercise ... P. 136.

(*b*) Out books : (students are required to read the following novels) :—

(i) Scarlet letter. By Hawthorne (whole)
(ii) Pride and Prejudice. By Jane Austin (whole)
(iii) Vanity Fair. By Thackeray (whole)
(iv) Kidnapped. By Stevenson. ,,
(v) Return of the native. By Hardy (whole)

(*c*) Themes :—

(i) Short themes of 150 or 200 words 14
(ii) Double ,, 300 or 450 ,, 10
(iii) Long ,, 1000 or 1500 ,, 2

26 Themes in all

I missed the examination as the room in which it was to be held was changed which I did not know. I have to appear again in the examination to be held afterwards for those who missed it for similar reason.

2. German :—Same as I.

3. Mathematics: 2 credits. I do not know marks. General grade, F.

Read :—

(i) Analytic Geometry. By Smith and Gale ... ... P. 1-155.

(ii) Analytic Geometry. By Loney P. 1-300.

4. Chemistry :—5 credits. I do not know marks. General grade, G.

(*a*) Text-book :—

(i) General Chemistry. By Louis Kehlenberg ... ... P. 1-303.

(ii) Laboratory manual ... P. 206.

(*b*) Out-reading :—

(i) Newth's Chemistry

(ii) Applied Chemistry. (Practical).

(iii) Life and works of Gay Lussac.

(*c*) Extra works. [Without credits].

(i) Preparation of several salts and chemicals required for the Junior Course.

5. Mineralogy :—3 credits. I do not know marks. General grade G.

(*a*) Text-books :—

(i) A Text-Book of Mineralogy, by Dana, P. 538

(ii) Blowpipe Analysis. By Penfield, P. 302.

(iii) The Data of Geo-chemistry P. 731.

(*b*) Out-reading :—

(i) Crystallography—whole.

(ii) Several monthly magazines on Ores.

(iii) Commercial Geography of the United States.

RAJENDRA NARAYAN CHOWDHURY.

Hindu Student, Wisconsin.

WHAT OUR STUDENTS ARE DOING ABROAD.

Sir Arthur Lawley on Indian students in England

Sir Arthur Lawley presiding at the annual meeting of the National Indian Association said that after close observation in Madras, he greatly admired the self-sacrifice of the parents in sending their sons here but that they often fail to realise the magnitude of the experiment and the factors in the problem. London was a vortex of temptation. No wonder there were some cases of grievous failure. Parents could not do better than bring their sons into touch and association with thoughtful English people. In conclusion, he wished the experiment of education here all success as a means of more closely linking the East and West.

Indian Students Advisory Committee in London

It is highly gratifying to learn that Mr. Arnold has now under his guardianship in London close upon 200 young Indians, the number having been steadily rising from the first. Rather less then a third of them are Government or Native State Scholars, and all the rest submit to his beneficent supervision voluntarily, or rather at the unfettered instance of parents or guardians. Two years ago there were less than 30 men, not being Government or Native State scholars, on the books. The progress since made affords gratifying evidence of the good work of the Indian Advisory Committee in bringing the organisation of the Advisers department to the notice of parents and guardians in India, and recommending to avail themselves of the protection for their sons it affords.

Successful Indian Students at London University Examinations 1911-12.

B. Sc. (Engineering)

Tulsi Dass Kochhar—2nd Class Honours (Imperial College—City and Guilds College). Brij Mohan Lall—2nd Class Honours (Imperial College—City and Guilds College). Lachhmi Dhar Loomba (University College). Gyan Chandra Rampal (King's College). Nagendra Nath Ray (Imperial College—City and Guilds College). Sarva Daman Shroff (King's College) Banke Lal Subarwal—2nd Class Honours (Imperial College—City and Guilds College).

M. D.

Phirozshaw Cooverji Bharucha (University College Hospital). Gopal Vinayak Deshmuk (London Hospital). Man-Chersha Dhanjibhai Dorabji Gilder (University College Hospital) [All in medicine].

Calls to the Bar

Inner Temple.—R. Sri Pathmanathen, B. A., Oxford; Don Richard Wijewardene, B. A., Cambridge. *Middle Temple.*—Moung Tha Din, Raghunandan Prashad, Pyare Lal, Sohrabjee Maneckje, Dulip Singh Gill, Merwanji Kavasji Sett, Suthya Dhyan Ghosaul, Rameshwar Prasad Sinha, Md. Zacharia Hashmi. *Lincoln's Inn.*—Parsram Kundaumal Vasvani, Certificate of Honour, B. A., LL. B., Bombay; Satyendra Narayan Choudhuri, S. Md. Mir, Maung Maung Gyi, Nareschandra Ray, P. Nelakanta Menon, Dr. Syed Mahmud, Ph. D. Munster; Kumar Jagannath Singh, Mandlal Maniklal Mazumdar. *Gray's Inn.*—Kristnalal Datta, L. R. C. P., L. R. C. S.; M. Valu Pillai, B. A., LL. B.; Md. Naim, Dakshina Ranjan Mukerjea.

An Indian Printer

Mr. R. Maulik who went to England to take up the higher branches of typographical study has recently arrived in Calcutta. He has secured all the most useful qualifications of his profession. He has obtained the certificate of proficiency in advanced typography from the St. Bride Institute of London. He utilised much of his time in visiting some of the largest paper factories, ink works and printing presses in England and he has had opportunities for practical study in some of them. He visited some of the largest presses in England, France and Germany.

State Scholarships for Study of Sanskrit & Persian

A press *communique* states that the Government of India have awarded two state scholarship avilable in 1912 for the scientific study of Arabic and Sanskrit in Europe to Munshi Abdus Sattar Siddiqi (United Provinces) and Pandit Tara Chand (Punjab) respectively.

*The Theatre : Its Educational Value**

By Arthur E. Clery, Esq., B.A.

To make one of the notorious offenders of history a subject of panegyric is said to have been a favourite exercise with the sophists. When I consider some of the indictments brought against the theatre at various times, I cannot help thinking my task seems no very different one. For, when I write of the educational value of the theatre, I mean the living theatre—stage with the actors upon it. That plays themselves have, when read a value, no excess of fanaticism has ever attempted to deny; admission has rendered argument unnecessary. But it is not the perfect, lifeless organism, but the living being, capable alike of evil and exaltation, that it will be our task to consider.

Between the play acted and the play written the gulf is very wide: for in reading the text of a drama we rather see where beauty was intended than feel it and delight in it ourselves. The action dies. The quick retort grows pointless. A printed direction is all that remains of blinding tears. Yet dulled as are our feelings, our judgment is even more at fault. Single speeches pall on us because we have forgotten those others that make them pertinent. We estimate each action by itself and not in reference to the character deduced from all his actions. From this faulty appraisement, acting saves us. It is the actor's duty to synthetize, to give in one performance what can only be obtained by many readings, to fill each word with life, making the speeches their known commentary: in a word, like Pygmalion, to make of marble, man.

Yet from all the arts acting has ever been singled out by prejudice or its onsloughts. These attacks have been of two kinds. To the first class belong those unreasoning diatribes which still emanate from that most narrow-minded of all societies, the lower middle-class of England, interesting only as a survival of those prejudices which led Cromwell to break church windows and brought Sir Hudibras' wrath upon performing bears. In such productions argument soon gives place to anathema. They talk of the theatre as under the ban of heaven. In Pandemonium they see an opera-house. For them the fires of Tartarus are slaked with orange-juice and fed with sawdust.

Prejudices, however, such as these, scarcely

* A paper read at University College, Dublin.

more enligthened as they are than the objections of the same middle-class to vaccination, would not deserve reference were it not for an oft-stated misapprehension. We are constantly told, more particularly by untheatrical fathers in the north of this island, that the Catholic Church has condemned the theatre. We ask their authority for the statement; they bring forward as an all-sufficient reason the fact that priests are not allowed to visit it. But according to the reasoning hunting would also be under ban. Whilst although there is nothing very wrong about Rugby football, yet, I think, that if any of our parochial clergy were to seek occupation for Saturday afternoons by joining Lansdowne or Bective he would scarcely meet with episcopal approval. The layman need only look to his virture, the priest has also his dignity to maintain.

There is a second form of objection to the theatre, rational in itself and deserving to be met, not by denial but by argument. Those who put it forward hold that the admitted deterioration of the stage in modern times has robbed it of its usefulness. That the stage had at one time a great value, alike artistic and ethical, few reasonable enquirers can deny. The high estimation put upon the theatre by the Greeks as an instrument of virtue is a matter of common knowledge. Reflecting, however, that much that was then considered as appertaining to piety is now placed in the category of vice, it is perhaps better to leave aside considerations drawn from this source and have recourse to a far stronger support. We can cite the fact that the theatre in more recent times was founded by the Church itself. From the old Mystery plays, themselves direct developments of the dramatic elements in the Mass, through the Morality plays down to the present-day theatre the tradition is unbroken. To deny a value to the stage in former times involves a condemnation alike of medieval piety and renaissance art.

Between the drama of Shakespeare and the Renaissance, however, and the drama of the present day, the difference in point of excellence is admittedly very great. It is at first sight, not an unreasonable deduction, that where there has been such great deterioration, all educational value must have departed. But this reasoning leaves out of sight the fact that even an inferior production of our own day will affect us far more powerfuly than a masterpiece of former times. For it speaks to us in our own language. It uses the illustration of our own time and circumstances. Every point tells home. Æneas steers his trireme through a dignified oblivion. We give up our night's rest to accompany Sherlock Holmes on his steamerchase down the river.

True as this is of literature, of the stage it is especially true. For one of the chief purposes of the stage is to affect us by substituting the particular for the general. It is not abstract ambition, not the hazy character of a forgotten historical past but the living man Macbeth, that meets us at theatre and for a time seems to form a part of our living. If, then, the stage gains its effect by the particular, making, as it does, its artistic generalization seemingly particular to ourselves a scene of present-day life and conversation will move us far more powerfully than one taken from a remote cycle. The sword of Cato causes fewer tears than the revolver bullet of Captain Swift. The chloroformed handkerchief is more terrible than the poisoned ring.

The theatre, then, should affect us, but what should be the ultimate object of its so doing? For my part, adopting the ancient theory, I would maintain that in affecting and amusing us the proper end of the theatre should be to produce elevation. This I would hold the present-day theatre in large part does. But I would make certain broad exceptions. First, all those pieces which simply amuse, catering to the taste of those persons, more particularly ladies, who refuse the actor any other faculty than that of provoking laughter and see in the proscenium but an enlargement of Punchinello. Chief among such pieces is the musical farce.

True comedy often elevates by its delicacy and beauty: in it that chastening effect gained by the generalization of faults is never absent. But the class of production of which the musical farce is the latest and worst development seeks amusement as its only object, and to that object very seldom attains.

Further, I would exclude that product of dilute Ibsenism, the problem-play. To do so may perhaps seem strange; for we are accustomed to hear such plays belauded as the great teaching force of the modern stage. This, however, is only the revival of an old fallacy. The theory that art should teach has long been exploded. Neither Sophocles nor Shakespeare ever sought to point morals. Their object

was to elevate. Hence in their hands even a plot of an unpleasant nature is, by the method of treatment, turned to good. In Mr. Pinero's dramas, on the contrary, elevation is held of no account. Everything is sacrificed to inculcating some well-worn precept. Yet the lesson taught by the fifth act is but a sorry reparation for the debasing effect of the other four. The author advises virtue, his play teaches vice.

To the problem-play must be added the sensational drama, a class of production which seeks effects of no higher character than such as are produced by the bullfight and the prize-ring. Yet in speaking of the sensational drama I refer not so much to the blood-and-thunder productions of the Ambigu, Drury Lane, or our own Queen's, as those card-games, auctions, and similar mechanical expedients with which Mr. Alexander enthralls his patrons. Not that he is not a good actor, even if overrated by female audiences on account of his personal attractions; but, like many other able men, he is given to sacrificing art to gain, Shakespeare to Pinero.

After such large exceptions it may seem that very little remains behind. But I think there will be found a very considerable core, all the more valuable for this paring. First we have the revivals of Shakespeare, which for the play-goer give his production a life which the mere reader can never apprteiate. Side by side with these is the frequent production of what are known as "old English comedies" despite their Irish authorship. Moreover, their is another class of play which belongs peculiarly to the modern world: those plays that produce elevation through the Christian virtues of humility and kindness, virtues which ancient critics would have despised, and to which Christianity may be said to have first accorded that rank. As instance, I would take that old and simple yet moving comedy of Sydney Grundy, homely as its title, "A Pair of Spectacles," in which an audience is made to walk not in the paths of patriotism or some greater virtue, but in those of charity. Indeed, as the native theatre is concerned, comedy, as in later Athens, is at a far higher level than the graver art. Mr. Gilbert's humour seems justly destined to outlast any of the more serious productions of Carton or Henry Arthur Jones.

Another tendency, however, has recently shown itself in the modern theatre, and deserves all encouragement. The production of serious drama has been subject to a far smaller decline in other countries, as, for instance, France, than it has in these countries. This has, in later years, been recognized in England. As a result a very praiseworthy readiness is shown at the present day, not only to translate such works, but also to perform them in the original tongue. Such a practice may be considered unpatriotic by Englishmen; but in this country, where we are more cosmopolitan, it can meet with nothing but approval. The effect of Henrik Ibsen is, I admit, evil but whilst such a piece as Coppee's "For the Crown" can be seen on our boards, we can still congratulate ourselves, that that high ideal elevation which has at all times been the acme of stage production still exists in our theatres. Whilst Rostand's "Cyrano de Bergerac" shows an elevating reunion of the drama and poetry which in the English theatre have so long been unhappily divorced.

The consideration of foreign drama leads us to another proposition. Is there any way in which we might obtain a larger share of these ideal productions than is doled out to us by our British neighbours? For I think it the most unsatisfying feature of the present-day stage that there alone is Ireland consistently and unblushingly treated, not as a country, but a province; yet not alone are the Irish, like the French, by nature actors, but Congreve, Macklin, Goldsmith, and Sheridan, the authors of the best English comedies—comedies that can compare with those of any other language—were one and all Irishmen. In more recent times, Dion Boucicault, Sheridan, Knowles and the author of the "Story of Waterloo" in our own day are again our countrymen. Nay, had our ancestors known English in the sixteenth century, perhaps even the immortal bard might have found a rival.

Even at the present day, I think, had we a national stage, it would soon soar above that materialism with which the contemporary British stage is in large part blighted. In regard to comedies, indeed there would soon be very little comparison; whilst as to tragedy, though the sublimity of Sophocles might be above us, yet the pathos of Euripides would soon find disciples, perhaps even disciples fit to rival their master. Ireland is still possessed of a virgin genius: grant but an opportunity to her writers of working free from the trammels of another nation's taste, a splendid era of theatrical production will be one of the first results. I do not, however, suggest as an expedient those proposals for corporation-

governed theatres, with which Mr. Irving used to garnish his foundation-stones. A municipal council, though essentially selective, is not necessarily artistic. Even Aristotle's purging of the passions is not especially the province of the Public Health Department.

My remedy is a different—perhaps a somewhat visionary—one. I would revive the ancient system of university theatres. I would establish a university theatre where plays might be enacted, not as a means of displaying that elaborate scenic paraphernalia which chokes dramatic production in present-day London as in later Rome, but rather like the performence of the Comedie Francaise, as a mode of education. Advancing even a step further than the Comedie Francaise we might have not only a vigorous nativ drama, vigorous particularly in comedy, but the best productions of other countries, performed in the original. Were such a theatre established in Ireland fit audiences would not long be wanting.

In conclusion, then, I hold that the theatre in England was once a great factor in that elevation of the mind which is the chief business of education, that playwriting has since decayed, but that the plays of to-day make up in their effects for their loss of excellence by their use of the language and illustrations of our own time. Hence, even in the stage of the present day there is much still valuable, whilst the revival of Shakespeare and of old English, or rather old Irish, comedy, together with the production of foreign plays from those countries in which theatrical production still flourishes, bring within our reach the stage in its highest form. But whilst holding that the present-day stage is useful, I admit that it could be exalted and improved, and in no way better than by allowing a native theatre to Ireland, whose genius is still unexhausted, and where many of those conditions are still to be found that produced the drama of Elizabeth and of Greece. In such an event I am confident that the drama would once again vindicate its place as the highest of the arts, and that even in ourselves it would find not its critics but its audience.

ARTHUR E. CLERY.

ARTICLES AND CONTRIBUTIONS
SPECIALLY USEFUL TO STUDENTS

The Carolines and the Metaphysical Poetry.

The Elizabethan poetry had been free from formalities of all kinds. Full and free it flew on like a limpid stream. The clear and transparent ideas flowing out of the heads of the prodigies of the age, tolerated no obstruction or hinderance. This was what the liberal movements of the Reformation and the Renaissance had led things to. Now, such an abnormally exalted state of affairs could hardly be abiding, and in course of time, party-feeling grew too strong for the day, the large-hearted liberality dwindled to nothing, and men lost the balance of mind, the ballast which kept them steady in the tempest. This in the place of breadth of view, littleness of mind crept in with all its attendant injuries. While the people thus "fell into littlenesses," the outward turns of expression were more minded than the inmost depth of feeling. The literature, in consequence, degenerated. Affectation, conceit, novelty, obscurity, and shallowness now took the places of naturalness, simplicity, straight forwardness, and depth.

This stale of affairs give rise to what is called the "metaphysical poetry" in Engish literature. John Donne may be described as the high-priest of this class of poetry. Johson's estimate of this subject takes the following shape.

"The metaphysical poets were men of learning and to show their learning was their whole endeavour * * *. Their thoughts are often new but seldom natural; they are not obvious, but neither are they just; * * *. The most heterogeneous ideas are yoked by violence together; nature and art are ransacked for illustrations, comparisons and allusions. * * * Yet great labour, directed by great abilities, is never wholly lost; if they frequently threw away their wit upon false conceits, they sometimes struck out unexpected truth: if their conceits were far-fetched, they were often worth the carriage."

"In these poets," says Thompson, "ingenuity predominates over feeling, and while Milton owed much to many of them, they had never the less far more to do in generating the so-called correct and artificial manner of the age of William III., Anne and George I." Leslie Stephen's terms are are still more expessive: "The metaphysical poets are courtier pedants," he says, "They represent," continues Stephen, "the intrusion into poetry of

the love of dialectical subtlety encouraged by the by the still prevalent system of scholastic disputation."

The chief of these poets is Abraham Cowley[1]. In 1633 he published his *Poetical Blossoms*—"enthusiastic imitations of Spenser." He projected, but left unfinished a long epic poem, *Davideis* (1656), an account of David, the king of Israel. But this work is now utterly forgotten.

Cowley may be said to have introduced the "Pindaric odes" in English. He, however, transplanted only the form of the "odes" of the "Theban Eagle"; the spirit, which diffused through the original, he could hardly take in. Added to it, was his usual mannerism, which made him sometimes disgusting-reading; but occasional passages of beauty were not wanting in the "odes" of Abraham Cowley.

George Herbert,[1] Richard Crashaw[2], and John Cleveland[3] may also be mentioned. Herbert is the author of *The Temple* (1633), a book of sacred poems and invocations. Hallam accuses Crashaw of "bad taste", but Mr. W. H. Low, while admitting the charge, points out that "Crashaw more than makes up for his 'bad taste' by bursts and flashes of poetry such as is rarely to be found in any of his contemporaries but Milton, and that he exhibits at times wonderful charms of metre and diction, often in the midst of (what seems to the nineteenth century readers) his worst offences." Crashaw's chief works are *Epigrammata Sacra* (1634), and *Steps to the Temple, with other Delights of the Muses*. Cleveland is the author of *The Rebel Scot*, a satirical poem on the Scotch published in 1647. His writing, though stiff, can boast of true lyric tone. It has been said that Samuel Butlar borrowed much from him for his *Hudibras*.

The monotory of the mannerism of the 'metaphysical' poets was broken by the fine lyrical out bursts of Herrick,[1] Suckling[2] and their confraternity, which includes besides themselves, Carew[3], Lovelace[4], Browne,[5] Waller[6] and Denham[7]. *Hesperides* and *Noble Numbers* published in 1648 contain most of the best pieces of Herrick. The former is a collection of love-poems and epigrams and the latter contains his finest religious poems. Herrick combined in him "the earthly and the divine." Thomas Carew was "the most celebrated among the lighter poets." In him was united the freedom and the grace of his predecessors and his contemporaries with the careful and delicate ways of handling things, common in his successors. His longest work is *Cœlum Britannicum*, a masque. Sir John Suckling and Richard Lovelace were both cavaliers. "Both underwent persecution, and both were reduced to poverty, Suckling almost committed suicide, Lovelace was imprisoned long and often for his adherence to the loyal doctrines of his party, and is said to have died in abject distress. Both were men of elegant, if not of profound scholarship and both give examples of the spirit of loyalty to their king and of gallantry to ladies." * But the tone of Lovelace's lyrics is more serious than that of Suckling. The chief work of Suckling is *Ballad upon a Wedding*, in which the poet, in the character of a rustic, describes a fashionable wedding. The best pieces of Lovelace were written in prison: *e.g.*, *To Althea*. The chief collection of his poems is called *Lucasta*, published in 1649. William Browne gave us two famous pastorals, *Britannia Pastorals*, and *The Shepherd's Pipe*, works "suggested by the pastoral school of Sidney and Spenser." Besides these, he wrote several lyrics and short poems of genuine excellence. Edmund Waller introduced a new system of poetry a system which was hardly known among his contemporaries, but which furnished models for his eminent successors, Dryden and Pope. In short, Waller clearly anticipated the poets of the 'classical' age. His poems are generally love-verses, though forceful and vigorous writings are not absolutely unknown. He is also the author of a longer poem, *The Battle of Summer Islands*. Sir John Denham's *Cooper's Hill* is famous for its topographical interest.

Other poets of the school are Henry Vaughan, whose *Sacred Poems* published 1651, though not marvellous as a whole, are yet transcendental at times; William Habington, the author of *Castara* (1634), in which is found the author's devotion to Catholic Faith mixed with laudatory songs on his wife; and Fancis Quarles, "whose *Divine Emblems*, 1635, is still read in the cottages of England."

AJAX.

1. 1618-1667.
1. 1593-1633. 2. 1613-1649. 3. 1613-1648.
Butlar, a satirist of the 'age of Dryden,' living between 1612 and 1680.
1. 1591-1674. 2. 1609 1641. 3. 1594-1639 ?
4. 1618-1658. 5. 1591-1643 ? 6. 1606-1687.
7. 1615-1669.

* Thompson.

One phase of party politics in England (with special reference to the history of parties from 1846—1868).

Whatever can be urged for and against the system of government by parties, there is no doubt that in English politics the parties are the great moving powers. Burke's definition of a party as "a body of men united, for promoting by their joint endeavours the national interest, upon some particular principle in which they are all agreed," holds more or less true of modern parties with their sharply-defined programmes, as also of the disorganised parties of Burke's time; but ever since the parties came into existence, many have been the occasions when this 'particular principle' on which they are supposed to be agreed, have been sacrificed and not infrequently made subordinate to personal interests and in fact the great parties have degenerated into factions,

In modern times nothing has contributed more to the growth of Royal power than the failure of the political parties to interpret public opinion faithfully. This alienation of the parties from the people is surely more a feature of American public life than in England; but with the ever-increasing complexities in English public life—complexities that are inseparable from Vastness of the Empire which the English people are called upon to govern and the variety of interests which they are to represent—these, and several other causes have alienated the parties more and more from the mainspring of English public life. This is indeed a serious and a real evil, but it must nevertheless be noted that government without party is absolutism, rulers become despots without opposition.

Party government to work smoothly requires some essential pre-requisites. In the first place the number of parties must not be more than two if possible. The more the number—the more these bodies lose their original character as parties, the more they partake of the character of cliques and groups. The existence of several parties in place of two enables the sovereign to exercise larger powers of discretion in the choice of his ministers and defeats the very first principle of parliamentary government.

In the next place, the two parties must have clearly refined programmes of their own.

A third essential is the existence of two parties of almost of equal strength—this is specially necessary to check 'the tyranny of the majority.'

A critical survey of the period in English history which intervened between the disruption of parties on the repeal of the corn laws and the formation in 1868 of two solid parties under Gladstone and Disraeli, would clearly point out the evils resulting from the absence of the above-mentioned essential elements of party government. Such a survely will also clearly establish the fact that compromise, which was the dominant feature of English politics of the period under review, plays but a very insignificant part in the orderly working of the party-system—that in fact except under circumstances of a special character, compromise retards rather than accelerates the smooth working of the party-machine.

Sir Robert Peel came to power as the head of the conservative party (1841) almost pledged to maintain the policy of Protection. His Free trade budgets (1841-43) and his final repeal of the corn laws—in short his complete abandonment of Protection--have been characterised by some as 'the great betrayal.' Judging the incident from the standpoint of conventional party ethics, it is difficult to exonerate Peel from this charge. But he must be credited with a strong courage of convictions —a fearless promptitude to violate the conventional rules of party obligations in the higher interests of the country. He indeed lost a party, but gained a nation.

The step that Peel took in 1846 by establishing Free-trade dealt a serious blow to the organised strength of the conservative party. The country gentlemen and the landed-classes—who constituted the vast majority of that party—broke into revolt, and only postponed the crushing blow to their leader till they had some able man to lead them. Lord George Bentinck —a Tory squire of influence, but of mediocre political abilities made himself the mouthpiece of this spirit of unrest in the Tory party. Though no match for Peel or Russel in debate or Parliamentary tactics, still he was an admirable representative of the country gentlemen who chose him as their leader. But Bentinck was not the man who could for any length of time successfully fight in the political arena with men of such approved ability as Peel, Russel, and Cobden. At this crisis the services were needed of a man who could not only embody in his person the principles of the Protectionist party, but who in intellect, versatility and eloquence, could maintain the now hopeless protectionist cause against a brilliant array of talents. Such a man they found in Disraeli. The country gentlemen, however, though they had learnt to distrust Peel, had not yet learnt to trust Disraeli. Lord George Bentinck was just the man from behind whose nominal leadership, Disraeli with his consummate tact and caustic eloquence was fitted to play the part of real leader.

The cause however which Disraeli represented was a hopeless cause. Notwithstanding the Peers and the country gentlemen the corn bill passed and the Protectionists had to content themselves with a barren protest against measures which they were unable to defeat. Impotent to withstand Free-trade, they could at least visit their displeasure on

the Irish Coercion Bill. This measure was the occasion for a formidable combination against Peel; on the very night on which Free-trade was passed by the Lords, Peel experienced his final defeat in the commons where Whigs, Protectionists and Radicals had agreed in combining against the measure. Here was a combination amongst statesmen who had practically nothing in common with those whom they supported and against a statesman with whom many of the oppositionists had a good many principles and policies in common! The recalcitrant Tories opposed him out of a spirit of revenge, the Whigs opposed him partly on principle, but chiefly to gain office and the Radicals opposed of course on principle only. A combination like this unmistakably indicates that the party-machinery was out of joint. In the normal condition of things the accepted rules of party allegiance would preclude the possibility of such an alliance.

This is what is known as the first great party-split in the Victorian Era. The fall of Peel, due undoubtedly to the rage which his policy excited among his followers, caused a disruption of the Conservative party which exercised a very important influence upon the political history of the Succeeding period. The Whigs were returned to power not by reason of any increase of their own strength, but by the disunion of their opponents. In place of the two great political parties there arose three and more groups—none of them sufficiently powerful to command a majority in the House of Commons without the help of a second group. Russel's overtures to Peel and his followers with whom he had nothing in common except almost a chance coincidence on Free-trade and to the Protectionists who by an unholy alliance with the Liberals had over thrown Peel, failed, and Russel was forced to rely on his own immediate supporters in the Composition of the new ministry.

It will be far short of the truth to assert that in this period of transition there arose only three parties—the Liberals, the Conservative and the protectionist; for at the same time each party comprised within itself diversities of opinion, not less marked than those which distinguished it from the other. The old constitutional whig was more nearly akin to the Liberal Conservative than to many of the more advanced men of his party. Enlightened statesmen of the conservative party had more principles in common with the bold disciples of Peel than with the rank and file of the more ardent conservatives. It is this state of things which can alone explain the formation of coalition cabinet. The constant tossing of the Liberal leadership between Russel and Palmerston becomes explicable only by reference to the anomalous condition described above. This again accounts for the existence in the same Cabinet of men holding such widely divergent views on many of the more important questions of the day as were held by Palmerston and Glasttone.

Lord Russel's administration lived for six years upon the distractions of the Conservatives and fell when it provoked the wrath of its most powerful and popular member—Palmerston. Russel was succeeded in office by Lord Derby. The Conservative government under Derby had a hopeless task to contend with. Protection was still the distinctive principle of the party; but the revival of protective policy was utterly out of the question. Divided and disorganised and without a policy, failure of Lord Derby was inevitable. This end was expedited by a junction of whigs and Peelites under Lord Aberdeen. For six years these faithful followers of Peel had kept aloof from both parties. The gulf between them and the Conservatives had become impassable and their past career and present sympathies attracted them towards the Liberal party. Accordingly a Coalition ministry was formed under Lord Aberdeen.

'England does not love Coalitions' are the memorable words uttered by Disraeli on the eve of the formation of the Coatition Ministry under Aberdeen; and the fate of the ministry amply bears out Disraei's shrewd remark. Disareli would have gone still nearer the truth if he had said that a Coalition must in its very nature be abhorrent to the people of a country governed by parties. It is when the party-system is in a confused state that a Coalition becomes possible. The union of parties —more properly of cliques—which gave the Coalition Cabinet outward force, was not calculated to secure harmony and mutual confidence among its members.

The Coalition ministry failed chiefly owing to the unpopularity incurred in connection with the Crimean War and a Liberal ministry under Palmerston came into existence. The Chief feature of this Cabinet was the presence in it of Gladstone was now the leader of the Peelites who since the great split had wavered between two conflicting lines of policy and action. The failure of Disraeli's attempts to persuade Glastone to join the first Derby Cabinet had already made it manifest that the leanings of the Peelites were towards liberalism. The junction of the whigs and Peelites under Aberdeen made this still more clear, and Gladstone's acceptance of office under Palmerston marks the final severance of the Peelites from the conservative party from which they had originally sprung.

Palmerston's tenure of office continued up to 1858, when he was succeeded for the brief space of fifteen months by Lord Derby. In June, 1859 Palmerston again become Premier, and on his death in 1865, Lord Russel suceeded to the premiership, and under him the Liberal ministry remained in office till June, 1866. In June 1866 the Russel ministrv was wrecked on the question of Parliamentary reform which was to be the crowning achievement of the Conservatives in the period immediately to follow. After Lord Russel a Conservative

Government came to power under Lord Derby who became Prime Minister for the third time. This Ministry lasted till 1868 when Gladstone succeeded as the Premier at the head of a liberal majority.

The accession to office of Gladstone in 1868 is an important event in the history of English political parties. The Cabinets ever since the fall of Peel in 1846, have been called 'transition Cabinets' and the period has been characterised as a period of transition. Compromise was the chief feature of the public life of this period. Between the leaders of the conservatives and the leaders of the ministerial liberals, there was little difference of policy and professions. The relations of all parties were disturbed and unsettled. Their principles were no less undetermined. The broad distinctions between them had been almost effaced ; and all alike deferred to public opinion, rather than to any distinctive policy of their own. It was indeed a blessing in disguise. But a state of things like this was too good to last long. The political leaders had no particular respect for public opinion, but they made virtue of necessity. During Lord Derby's second ministry the Conservatives were in a minority of not less than one hundred, as compared with all sections of the Liberal party ; and their only hopes were in the divided Councils of the opposition. Under these circumstances very naturally they become hopeless about support from either side of the house, and sought to rest their power on a policy of satisfying public expectations. Accordingly though it had been hitherto their characteristic principle to resist constitutional changes, they accepted Parliamentary reform as a political necessity ; and tried by various other means to conform to public opinion.

In 1859, the conservatives gave in their adherence to the cause of Parliamentary reform ; and in 1860, the Liberal administration which succeeded them, were constrained to abandon it. In fact the whole party machinery had been so terribly disorganised that to accommodate themselvs to public opinion Conservatives had become Liberals ; even the Radicals professed moderation being afraid of outstripping public opinion. This fusion of parties, and concurrence or compromise of principles were the principal characteristics of this period of transition. A long interval of inaction and Compromise—an era of political repose in which all important questions were postponed for a more convenient season, was terminated in 1868 by the occassion to office Gladstone as Premier.

'Palmerston was a living compromise,—this trait of the statesman's character explains the extra ordinary popularty he enjoyed during his lifetime. He was a very shrewd judge of the national temper and could take the fullest advantage of the acute differences which divided the members of the House of Commons. He possesssed in a great measure the tact of playing one section against the other.

These are qualities very useful to Parliamentary leaders in a period of transition. The Tories supported him for fear of the Radicals, and the Radicals supported him to keep out the Toris. He was equally distrusted by a section of the Liberals and a section of the Conservatives, but he was the most trusted of all the living Statesmen. He was indeed the most representative Englishman of his generation.

The period of English History referred to in the foregoing lines was in brief an era of political repose when the distinctive principles of the two parties were brushed aside for a time, the ordinary rules of party allegiance and party obligations were lost sight of and statesmen came forward with programmes mostly vague and indefinite. A most hopeless confusion of principles and interests prevailed for more than twenty years after the repeal of the Corn-laws. Besides the existence of two great parties with hard and fast lines demarcating one from the other, the smoth working of the party machinary also demands as heads of these two parties men of commanding eminence claiming undisputed allegiance from their followers. Such is the state of things in which the party-machine runs at its best ; and after the confusion of twenty years such a situation had arisen in English politics at the end of the year 1868. The death of Palmerston under whose dictatorship both Bright and Diasræli had chafed, the diappearance of the elder statesmen whose political dogmas were being speedily exploded as anti-diluvian, the disappearence of the die-hard protectionist remnant and the extinction of the Peelites and above all, the rise of Gladstone and Disrœli to the unquestioned leadership of two parties—these and also the great Reform Act of 1867 at last cleared that rust and rubbish with which the party-machine had been clogged ever since the fall of Peel. "For the next twenty two years the interest of English politics centres round the striking and dramatically contrasted figures of Gladstone snd Disrali."

All this confusion may in a sense be attributed to the great party-split on the Corn-laws, and another great split took place in the ragns of the Liberal party on the question of Irish Home Rule. Then also followed period of confusion and disorder—a state of things that may be said to have disappeared since the great Liberal Victory at the General Election of 1906, the secessionists from the Liberal party (the Liberal-unionists) having identified themselves with the conservatives in the mean time just as the Peelites (the secessionists of 1846) had merged themselves in the Liberal ranks.

B. M. S.

CONTRIBUTIONS from STUDENTS.

The Khiliji Dynasty—Concluded.

Regency of Cafur—35 days.

The death of Alauddin was followed by a sensational palace revolution—a revolution the tale of which does 'harrow up the Soul' and 'freeze the blood' of every student of Indian History. The mischievous conduct of Malik Cafur, who sought to become the real ruler of the Kingdom, and consequently whose object it was to exterminate every member of his late master's family, or to make the princes, who might advance their claims to the throne, incapable of the ruling-power, by inhumanly destroying their physical organs, became the guidding spirit of the courtiers.

The day after Alauddin's death Malik Cafur assembled the Courtiers and produced an illegibimate testament of the deceased King, in which his youngest son, Prince Omar Khan, an infant of four years was appointed his successor and Malik Cafur regent during his minority; thus setting aside altogether the claim of Prince Khizir Khan and of other princes of the royal blood. The Omras being induced to accept the will, Malik Cafur began his administration as regent of the infant prince.

The first measure of the regency was to send a person to Gwalior in order to destroy the eyes of Prince Khizr Khan and Shady Khan, His orders were inhumanly carried into execution; and the Sultana, their mother, was thrown into confinement. But the third prince Mobarik managed to save his eye sight by winning over the heart of the assasins, sent by Cafur; and before Cafur had time to adopt further measures he himself was stabbed to death by the royal guard who were backed up by the commander and his lieutenant.

One fact must be borne in mind that the slave-regent immediately after his possesion of the royal power married the third wife of his late Emperor master, and the mother of the infant prince, Omar Khan. What led the Queen, who lost her husband but a couple of days ago, to give her consent to such an impious and inglorious marriage with that evil genius is not known. But most probably it was the hope of the queen that she might be able to join a safe security of the infant life of her beloved son which necessitated her to give herself up to the dreadful and mortal influence of Malik Cafur.

Mobarik Khiliji-(1316-1321), The murderers of Cafur headed by their backs hastened to the dungeon which Moberik had been thrown into, released and made him regent in the room of him whose life-tree they felled down some hours ago. But for two months Mabarik abstained from assuming the diadem, at the end of which time he put out the eyes of his brother and set him to a hill fort and made himself master of the throne.

The first and foremost measure of the King was the despatch of the officers who had raised him to the throne; and this his first action clearly prove how much did the King fear his benefactors. Probably it was his belief—and this is no doubt the true belief—that those who had proved once faithless to their master could very well do the same in his case also, which prompted him to do away with their lives. After this ungrateful deed Mobarik began to scatter his favors among the nobles of his courts; but he disgusted them all by raising some of his slaves to the rank of Omras. Hussen, a converted Turwary (a Hindu outcast) slave of Gujrat received the title of Malik Khoosrow, and through the King's attachment became the greatest man in the realm.

These misdeeds of Mauberik raised a band of enemies against him. The King became be wildered; for he could not find out means of extricating himself from the deep jungle of ill-feelings borne towards his own person. At last he thought out the plan to reform the administration and to release all those who had been imprisoned during the administration of his predecessors. Thus was set free all prisoners to the number of 17,000—'a sweeping measure which could only have been commendable after a reign like the preceding.'

The restoration of the lands confiscated by Alauddin, the removal of the oppressive taxes, the abolition of the restrictions on trade and property and the recall of the exiles by proclamation—these were the next measures which the king carried on in order to gain the goodwill of the people as well as of the nobles of the court. To gain the favor of the of the soldiers, the King commanded a present of six months pay to be made to the whole of the troops and conferred many other advantages upon them. "But in carrying these measures into effect," says Ferista, "he abandoned some of the wisest institutions of his predecessors, and the sources of justice soon became polluted and corruption prevailed."

About this time rebellions in Guzrat and the Deccan attracted the attention of the King; and he him self marched to the Deccan, after having sent an expedition to Guzrat and another to Malabar under his favourite general Khoosrow. Every where the tide of success turned in his favor; and the King succeeded in capturing Harapal Deva who was inhumanly ordered to be flayed alive.

Thus having restored tranquillity and being in quiet possession of Guzrat, the Deccan and most part of Northern India, Mabarik gave himself up to the most disgraceful and hateful debauchery. Ferista says that "he became infamous for every vice that can disgrace human nature, and condescended so far as to dress himself often like a common actress, and go with the public women to dance at the houses of the nobility." He lived a life of constant intoxication, and his chief delight appeared to be to display his worst vices to the public. These vices practised by the king became fashionable at court whence the whole body of the people was soon infected.

Under such circumstances it is not surprising that conspiracies would follow conspiracies and rebellions follow rebellions, which the king endeavored to suppress by tortures and executions.

During this time Mallik Khoosrow, through his endless influence upon the king, brought the whole administration of the Goverment under his own dictation; and every man's life and property was at his mercy. Khoosrow surrounded the king with his own creatures and filled the capital with Hindu troops of his own cast. Plots were formed against the king's life. Kazy Zeaoddeen, one of most learned men in the city, and who had been the king's tutor in his youth, warned him to take measures against his favorite friend, but his efforts were all fruitless. One might there was a hubbub in the courtyard, and the king was informed that his life was at stake. He attempted to make his escape, when Khoosrow rushed into the room, caught hold of, and began to struggle with, the king. In the meantime the followers of Khoosrow entered into and severed the royal head from his body. "Thus the vengeance of God" remarks Ferista, "overtook and exterminated the race of Alaooddin for his ingratitude to his uncle and for the streams of innocent blood which flowed from his hands. He even also punished his son Mabarik whose name and reign would be too infamous to have a place in the records of literature, did not our duty as an historian, oblige us to this disagreeable task.

After the murder of his infatuated master, Khoosrow at once assumed the vacant throne. He murdered all the members of the family of Alauddin, and transferred Deval Devi to his own seraglio. But he could not enjoy the power obtained by his usurpation. A few months after, Ghazikhan, governor of the Punjab, marched to Delhi with his veteran troops of the frontier defeated the illcommanded bands opposed to him and put an end to the reign and life of the usurper, to the Universal joy of the people.

Thus came to an inglorious end the Khiliji rule in India after a short period of thirty three years, in the person of Mobarik the most profligate king the world has over seen. And as the whole city of Troy was destroyed through the fault of one man, Paris, and all the posterity of Adam suffer death and disease "through the disobedience of one" so did the treacherous foolish king Mobarik bring down destruction upon the Khiliji power in India.

We have made an attempt to form an estimate of the importance of the Khiliji rule in the History of India, but would be incomplete unless

we try to measure the depths of the love which the first two rulers had towards the men of letters of the period.

Jalaluddin was the patron of learning all through his reign, and the learned men of the country were frequently admitted to the king's private parties. Of those who were distinguished for their erudition, and were authors of works of poetry, of history or of science, Ferista mentions the following names.

Taj-ood-Deen Eeraky.
Ameer Khoosrow.
Khwaja Hussun.
Moveind Dewana.
Ameer Arslam Kulamy.
Bakhy Khuteer.

We have said elsewhere that Alauddin was absolutely illiterate when he came to the throne; but he applied to letters and became a good Persian scholar. Inspite of the constant conspiracies and rebellions which he had to encounter, Alauddin never missed the opportunity of enjoying the profitable company of the learned men of his court.

Among the poet of Alauddin's reign Ferista notices the following:

Ameer Khoosrow Delvy.
Ameer Hussun Sunjurry.
Suder-ooddeen Aaly.
Fukr-ooddeen Khowass.
Humud-ood-deen Raja.
Mowlava Aarif.
Abdool Hukeem.
Shabob-ood-deen Misheen.

Besides these there were several historians and compilers of the memoirs of the times; and it is pleasing indeed to learn that most of the above mentioned persons received pensions from the court.

Thus we can unhesitatingly conclude that the development of literature was effected in a considerable degree through the royal favors directed towards the literary men of the day. Both Jalaluddin and Alauddin were learning-loving kings, and both of them bestowed grants of money on the learned men. Thus those who could not solely engage themselves to literature, owing to their pecuniary circumstances, came under the royal favors and gave a stimulus to the course of learning. This is the literary importance of the Khiliji Kings of India.

Manifold are the results arising from the Khiliji rule. But the conquest of the Deccan by Alauddin, the system of intermarriages between the Hindus and the Mahomedans and the stimulus given to learning are the most important consequences sprung from the womb of the Khiliji rule. Therefore the dynasty is as important in the History of India as the tenth day of December of the year 1520 in the History of the Reformation.

T. D. Banerjee.

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BUSINESS NOTICES.

All communications intended for the Editor should be addressed "To the Editor" and not to any member of staff by name.

All communications of a business nature advertisements, changes of address, enrolment as a subscriber) should be addressed to the Manager, and all remittances should be made payable to him.

NOTICE TO CORRESPONDENTS.

Correspondents are requested to write legibly on one side of the paper while sending in MSS. for the press.

Communications intended for publication must be accompanied by the name and address of the writer not necessarily for publication but only to satisfy the Editor.

VOL. II **THE COLLEGIAN** No. 7

All-India Journal of Education

CALCUTTA, THURSDAY, JULY 18, 1912

Government Grants to the University of Madras

The University of Madras has been promised by the Government of India a recurring annual grant of Rs. 65,000, and a non-recurring grant of Rs. 4 lakhs this year. The Hon'ble Sir H. Butler also stated in the Imperial Legislative Council that grants, both recurring and non-recurring, for Universities, are subject to the submission and approval of schemes. Besides these amounts, the Government of Madras have included in their Budget a grant, made at the instance of the Finance Committee, of Rs. 1·5 lakhs, for 'promotion of study and research.' Proposals for expenditure of this sum also, we presume, will have to be submitted to Government for approval. Altogether, the University of Madras have obtained Rs. 6,15,000. Our contemporary the *Hindu* says, "The public are quite ignorant of the schemes which, we think would have been submitted to the authorities for the utilization of this pretty large sum. Neither are the Fellows of the University in a better position." In view of the very useful objects on which this money could be spent, it is necessary that the Senate should be asked to formulate proposals in respect of this matter, and we cannot but think that the Syndicate will be pursuing a very undesirable course if it does not take the Senate and the public into its confidence. It need scarcely be pointed out that the final sanctioning authority should be in possession of all views about the proper use of this grant and the sooner the schemes are published the better.

* * *

Honour to Dr. P. C. Roy and Mr. D. P. Sarvadhicary

Besides the University of Aberdeen, the University of St. Andrews has conferred the degree of Doctor of Laws on the Hon. Babu Deva Prasad Sarvadhicary The University of Durham has conferred on Dr. P. C. Roy the degree of D. Sc.

Arabic College for Bombay

His Highness the Aga Khan always laid stress upon the importance of the study of the Arabic language, so that hidden treasures of ancient literature may be laid bare. At present there is no Arabic School worthy of the name in Bombay Presidency where old literature can be studied in the true spirit. Haji Ahmed Hassan has now promised Rs. 75,000 to found an Arabic College in Bombay in honour of the visit of the Pir Saheb of Bagdad.

Madras Female Education

The Government has approved of the proposal of the Director of Public Instruction to appropriate Rs. 10,000 of the Imperial grant of eight lakhs for the award of scholarships to girls in the schools to induce a larger number of more promising pupils to remain longer at school since the present number on the rolls in the infant classes is reduced to about one-sixth by the time the third standard is reached. The Director has been requested to report for the information of the Government the number and the rate of scholarships allotted to each standard and the probable expenditure during the current year. Sanction has also been accorded to the expenditure of Rs. 22,000 on the equipment of Government girl's schools from the lump grant of Rs. 4 lakhs in the current year's budget.

National Council of Education Bengal

The National Council of Education, Bengal, with which is now incorporated the Society for the Promotion of Technical Education, have just issued the report of their work during the year 1911. The Council had three severe losses through the deaths of Rai Narendra Nath Sen Bahadur, one of the Vice-Presidents, Mahamohopadhya Kabiraj Bejoyratna Sen, and the Maharaja of Cooch Behar. The total receipts were Rs. 1,23,963-4-7, Rs. 30,743-1-6 on account of the National College and School and recognised Institutions and Rs. 68,804-8-3 by the Bengal Technical Institute. The expenses reached Rs. 1,16,236-15-4, Rs. 32,961-1-3 on account of the National College and Rs. 63,123,0-4 for the Technical Institute. The balance at the end of the year stood at Rs. 7,726. Among the subscriptions received were Rs. 24,000 from Mr. T. Palit, Rs. 8,000 from the Maharaja Manindra Chandra Nandi Bahadur and Rs. 3,000 each from the Maharaja of Cooch Behar, Mr. B. Chakarvati, and Mr. Justice Chaudhuri. Seven scholars were sent to America, their expenses being met by a special fund, a geological student is studying in London and another in Berlin. Among the activities of the year has been the starting of a boarding house for students which has accommodation for thirty-two. The rates are Rs. 12 per month for upper rooms and Rs. 10-8 for lower rooms, both including board.

* * *

A New Fellow of the Royal Botanic Society

Mr. Ganesh Chandra, M.A., M.R.A.S., F.R.M.S., Professor of St. Columba's College, Hazaribagh, has been elected a Fellow of the Royal Botanic Society of the Great Britain and Ireland. He is the first Indian to receive such a distinction.

* * *

Interesting Historical find

A meeting of the Punjab Historical Society was held this evening. The Hon. Mr. E. D. Maclagan presided. Dr. J. P. H. Vogel read a paper on the village of Mat, not far from Muttra, the ancient Mathura. The discovery is due to Rai Bahadur Pandit Radha Krishna, the Honorary Curator of the Muttra Museum, who has done excellent work in collecting valuable sculptures and inscriptions. Dr. Vogel first laid stress on the great importance of the find in that the image of Kanishka is the first undoubted portrait statue of an historical personage found in Indian soil. The person portrayed is moreover one of the most prominent rulers of ancient India. The lecturer then reviewed all that we know about Kanishka from inscriptions and coins as well as from Buddhist and Brahmanical literature. Kanishka's attachment to Buddhism is amply proved by the fact of his having built the great Pagoda at Peshawar in the ruins of which Dr. Spooner of the Archaeological Survey discovered in March 1909 the relics of Buddha. On the relic casket the effigy of the king occurs in exactly the same attire in which he appears on his coins. The lecturer described the statue of King Kanishka discovered at Mat. The head and arms are lost but for the rest it is very well preserved. The dress of the King consisting of a long coat and heavy boots is very curious and shows at once that he was a foreigner.

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CALCUTTA UNIVERSITY.

Referring to the orders of the Hon'ble the Vice-Chancellor and Syndicate of the Calcutta University, published in the *Calcutta Gazette* dated the 6th of December 1911, Part IC, page 680, prescribing text-books for the Intermediate Examination in Arts for 1914, it is hereby notified for general information that the abridged edition of Lord Avebury's "Peace and Happiness," published by Messrs. Macmillan & Co. for the use of Indian students, is the book prescribed as one of the text-books in English Prose for the aforesaid examination.

Intermediate English Text 1914

With reference to Notification No. 5058F. in the *Calcutta Gazette* of the 28th December 1892, Part I, page 1172, the Elliot Prizes for Scientific Research will be given to the authors of the best original essays prepared during the year, giving the result of original research or investigation by the essayist in Physical, Chemical, Mathematical and Natural Sciences.

Elliott Prizes for Scientific Research for 1912

2. As only two prizes have been awarded during 1911, the Trustees have again specially sanctioned the award of four prizes for the year 1912 for essays showing original work or investigation in the aforesaid subjects.

3. Any native of Bengal or of the districts of Dacca, Mymensingh, Bakarganj, Faridpur, Rajshahi, Rangpur, Dinajpur, Jalpaiguri, Bogra, Pabna, Malda, Chittagong (including Chittagong Hill tracts), Noakhali and Tippera (including Hill Tippera), or any Eurasian or domiciled European, residing in Bengal or the aforesaid districts, may compete for the prizes.

4. The essays of competitors must be sent to the President of the Asiatic Society of Bengal, 1, Park Street, Calcutta, by the end of December 1912. The prizes will be adjudged to the best competitor or competitors, and awarded publicly at the ordinary annual meeting of the Asiatic Society of Bengal in February 1913.

5. Preference will be given to researches leading to discoveries likely to develop the industrial resources of Bengal. In the case of no essay being deemed by the Trustees to be of sufficient merit, no prize is to be awarde.

Medical Examination Results, 1912:—

I. Second (Final) M. B. Exam 1912 :—

SECOND CLASS.

Mallik, Bidhubhusan	Medical College.
Sarkar, Akhilnath	Ditto.
Sen Gupta, Bijayananda ...	Ditto.

II. (*a*) FIRST M. B. EXAM. WITH HONOURS :—

(*In order of merit.*)

[N. B. (An) indicates Anatomy, (Phy) indicates Physiology.]

ANATOMY.

Bandyopadhyay, Tridibnath (Phy)	Medical College.
Gangopadhyay, Harihar ...	Ditto.
Sen, Pulinbihari	Ditto.

PHYSIOLOGY.

1.	Bagchi, Satinath	Medical College.
2.	Mitra, Paresnath	Ditto.
3.	Bandyopadhyay, Tridibnath (An)... ...	Ditto.
	Bardhan, Prabhatkumar...	Ditto.

II. (*b*) FIRST M.B. EXAM. (Pass Course) :—100 passed (all from the Medical College.)

III. Preliminary Scientific M.B. Exam :—99 passed (all from the Medical College).

SUPPLEMENTARY SECOND L.M.S. Exam :—

Jitendranath Basu, Srischandra Basu, Narendranath Bhattacharyya, Makhanlal Chakrabarti, Amarendranath Datta, Charuchandra Ghosh, Dhirendramohan Ghosh, Surendranath Kumar,

Surendranath Majuindar, Jagannath Mallik, Dhirendranath Mitra, Kalikrishna Mitra, Surathlal Sarkar, Harishchandra Sen, Sarojbandhu Sen, S. M. Zafar Hosain Manni—(all from Medical College)

UNIVERSITY M. A. CLASSES :—

The following gentlemen have been appointed University Lecturers in Mental and Moral Philosophy :—

Mental and Moral Philosophy

(1) Dr. Hiralal Haldar M.A., Ph.D. (2) Mr. J. R. Banerjee, M. A. (3) Dr. Adityanath Mukerji M.A., Ph. D. (4) Mr. B. C. Ghosh, M.A., M.B. (5) Mr. Ramdas Khan, M.A.

During the session 1912-13 the University Lecturers will deliver the following courses of lectures :—

FIFTH-YEAR CLASS.

Dr. Haldar 30 lectures on Modern Philosophy, 30 lectures on Ethics, etc. Dr. Mukherjee 60 lectures on Ancient Philosophy, 120 lectures on Theology. Mr. Khan 60 lectures on Indian Philosophy, 120 lectures Psychology, tures on Ethics. Mr. Ghosh 60 lectures on Theology.

SIXTH-YEAR CLASS.

Dr. Haldar 60 lectures on Modern Philosophy, 30 lectures on Ethics, etc. Mr. Banerjee 60 lectures on Ancient Philosophy. Dr. Mukherjee 30 lectures on Indian Philosophy. 30 lectures on Ethics, etc,. 30 lectures on Theology. Mr. Khan 60 lectures on Mediaeval and Modern Philosophy. 30 lectures on Current Philosophical Movements.

[N. B. It will be observed that adequate provision will be made for the subject of the Compulsory Papers I, II, III. and for three optional subjects, viz Psychology, Ethics and Social Philosophy, and Philosophy of Religion.]

The following gentlemen have been appointed University Lecturers in Sanskrit :—

Sanskrit

(1) Pandit Bhim Sen Sastri. (2) Pandit Thakur Prasad Vyakaranacharyya. (3) Pandit Bahuballav Sastri. (4) Mahamahopadhyay Gurucharan Tarkadarsanatirtha. (5) Mr. Rabindranath Datta, M.A. (6) Mahamohopadhyay Kaliprasanna Bhattacharyya, M.A. (7) Pandit Taraprasanna Vidyarantna. (8) Pandit Rajendranath Vidyabhushan. (9) Pandit Muralidhar Banerjee, M.A. (10) Pandit Asutosh Sastri, M.A. (11) Pandit Bhagabatkumar Goswami Sastri, M.A. (12) Mahamahopadhyay Pramathanath Tarkabhushan. (13) Pandit Lakshman Sastri. (14) Pandit Sitikantha Vachaspati. (15) Pandit Prasannakumar Tarkanidhi, (16) Mahamahopadhyay Dr. Satischandra Vidyabhushan, M.A. Ph. D.

During the session 1912-13 the University Lecturers will deliver the following courses of lectures :—

FIFTH-YEAR CLASS.

(1) Pandit Bhim Sen Sastri 150 lectures on Vedas. (2) Pandit Thakur Prasad Vyakaranacharyya 75 lectures on Siddhanta Kaumudi, 100 lectures on Vedanta. (3) Pandit Bahuballabh Sastri 75 lectures on Siddhanta Kaumudi, 25 lectures on Gobhil. (4) Mr. Rabindranath Datta 50 lectures on Philology. (5) Pandit Prasannakumar Tarkanidhi 50 lectures on Sabdasaktiprakasika. (6) Mahamahopadhyay Kaliprasanna Bhattacharyya 50 lectures on History, of Literature. (7) Pandit Taraprasanna Vidyaratna 50 lectures on Poetry. (8) Pandit Bhagabatkumar Goswami Sastri 25 lectures on Prose,- 25 lectures on Poetry. (9) Pandit Asutosh Sastri 25 lectures on Prose. 25 lectures on Rhetoric. (10) Pandit Muralidhar Banerjee 25 lectures on Prakrit Grammar. (11) Pandit Rajendranath Vidyabhushan 50 lectures on Drama. (12) Mahamahopadhyay Pramathanath Tarkabhushan 75 lectures on Rhetoric, 50 lectures on Mimansa, 50 lectures on Vedanta. (13) Pandit Lakshman Sastri 125 lectures on Mimansa, 50 lectures on Vedanta. (14) Pandit Sitikantha Vachaspati 75 lectures on Smriti. (15) Pandit Gurucharan Tarkadarsanatirtha 100 lectures on Vedanta.

SIXTH-YEAR CLASS.

(1) Pandit Bhim Sen Sastri 150 lectures on Vedas. (2) Pandit Thakur Prasad Vyakaranacharyya 75 lectures on Siddhanta Kaumudi, 50 lectures on Gobhil. 25 lectures on Pingala. (4) Mahamahopadhyay Kaliprasanna Bhattacharyya 50 lectures on History of Literature. (5 Pandit Taraprasanna Vidyaratna 25 lectures on Poetry. (6) Bhagabatkumar Goswami Sastri 25 lectures on Prose, 25 lectures on Poetry. (7) Pandit Muralidhar Banerjee 25 lectures on Prakrit Grammar. (8) Pandit Rajendranath Vidyabhushan 100 lectures on Grammar 75 lectures on Rhetoric. (9) Mahamahopadhyay Pramathanath Tarkabhushan 50 lectures on Rhetoric, 50 lectures on Mimansa. (10) Pandit Laksman Sastri 100 lectures on Mimansa. (11) Pandit Sitikantha Vachaspati 75 lectures on Smriti. (12) Mahamahopadhyay Gurucharan Tarkadarsanatirtha 50 lectures on Sabdasaktiprakasika.

MADRAS UNIVERSITY.

B. A. Degree Examination Results 1912 :—

SECOND LANGUAGE DIVISION :

TAMIL :—1st class : 2, 2nd class : 62, 3rd class : 120.

TELUGU :—1st class : 8, 2nd class : 80, 3rd class: 32.

KANARESE :—1st class : 1, 2nd class : 16, 3rd class : 20.

MALAYALAM :—2nd class : 32, 3rd class : 104.

SANSKRIT :—1st class : 10, 2nd class : 162, 3rd class : 107.

FRENCH :—2nd class : 2, 3rd class : 2.

GERMAN :—2nd class : 1.

LATIN : —1st class : 1, 2nd class : 8, 3rd class : 2.

PERSIAN :—2nd class : 1, 3rd class : 1.

URDU :—2nd class : 1.

URIYA :—1st class : 1, 2nd class : 1, 3rd class : 1.

SCIENCE DIVISIONS : —

BRANCH I (Pure Mathematics and Mixed Mathematics):—1st class : 7, 2nd class : 63, 3rd class : 57.

BRANCH II-A (Physics):—1st class : 4, 2nd class : 40, 3rd class : 89.

BRANCH II-B (Chemistry): —1st class : 1, 2nd class : 24, 3rd class : 10.

BRANCH III-A (Botany):—2nd class : 7, 3rd class : 6.

BRANCH III-C (Zoology):—1st class : 1, 2nd class : 11, 3rd class : 7.

BRANCH III-D (Geology):—2nd class 13, 3rd class : 5.

BRANCH IV (Philosophy):—1st class : 2 2nd class : 54, 3rd class : 53.

BRANCH V (History):—1st class : 18, 2nd class: 163, 3rd class : 154.

Law Examination Results, 1912 :

M. L. DEGREE EXAMINATION :

Pass List : Chenchaiya Pandipeddi, III,

B. L. DEGREE EXAMINATION :

Second Class.—1 9 17 36 43 52 63 72 80 84 315 229 230 272 291 292 303 309 320 321 330 426.

Third Class.—3 6 7 8 12 13 15 16 19 20 22 24 26 27 23 40 41 56 58 59 60 61 65 66 70 72 76 78 81 85 89 91 93 96 97 99 100 103 104 107 108 112 113 121 123 124 125 129 134 136 138 143 144 146 148 149 155 156 160 162 163 164 166 167 175 180 181 185 187 189 90 191 193 196 200 201 205 207 210 211 212 216 218 220 221 226 227 233 235 236 237 242 246 251 253 254 255 260 261 265 266 267 271 273 274 287 288 289 293 294 296 298 301 302 308 311 312 318 319 321 323 325 328 331 335 340 345 348 351 354 357 358 359 361 362 365 367 370 377 378 385 386 387 388 391 401 402 407 408 410 414 420 421 422 425.

F. L. EXAMINATION :

PASS LIST

1st class.—221

2nd class.—4 13 17 39 45 55 65 75 107 157 174 197 218 250 291 306 309 311 312 350 388 468 490 511 522 525.

3rd class.—3 5 8 11 14 15 19 22 24 26 27 28 31 36 41 43 51 56 58 59 60 63 64 76 79 83 84 86 88 89 90 92 95 96 98 99 100 101 102 104 105 109 110 118 121 122 123 125 126 128 129 133 134 135 136 138 140 141 144 148 156 162 163 164 167 168 170 171 172 173 175 179 177 185 187 192 193 194 195 198 199 200 203 207 215 220 223 225 230 231 232 234 238 239 240 213 244 245 216 249 252 256 257 259 261 263 261 265 268 269 270 272 273 274 277 278 282 283 284 285 287 288 289 290 291 295 302 305 308 311 313 315 320 322 323 327 331 333 334 336 339 341 347 348 352 354 355 357 358 363 364 367 371 374 375 378 384 389 390 393 394 395 402 403 404 405 407 408 410 413 425 427 428 431 437 411 443 444 446 449 450 453 455 456 457 458 459 460 467 469 474 477 478 479 480 481 482 485 486 489 491 492 493 494 500 502 503 504 506 507 508 509 512 513 515 516 517 518 521 523 524.

COLLEGE OF ENGINEERING, MADRAS.

The undermentioned students passed the Final Examination held in April 1912 :

Engineer Class.

Civil.

1. Rangavadhanulu, J., with honours. 2. Lakshminarayana Rau, A., with honours. 3. Parthasarathy Aiyangar, K. 4. Krishna Rau, B. 5. Narayanaswami Sastri, S. 6. Krishnaswami Aiyangar, G. R. 7. George Philip. 8. Sundaram Aiyar, R. 9. Sekhara Menon, V. 10. Lakshminarasimhaiya, N. 11. Sundararamamurti, K. 12. Tippaiya, R. 13. Somayajulu, H. U. 14. Ninan, K. M.

Casual.

Gopala Aiyar, M., with honours. Narasimha Aiyangar, C.

Mechanical.

1. Venkatakrishna Aiyar, L., with honours.
2. Ramaswami Aiyangar, T. K.
3. Venkatarama Aiyar, V. R.

BOMBAY UNIVERSITY.

The Senate meeting of the Bombay University was held on July, 2 the Vice Chancellor Sir Narayan Chadavarkar presiding. After conferring degrees to the graduates in Agriculture, consideration was given to a notice of motion of Sir Pherozsha Mehta that a committee of the Senate be appointed for the purpose of revising general regulations of the University contained in chapter 8 and 9 dealing with subjects of order of business and rule of debate. Sir Pherozshaw said that an anonymous writer in the "Times of India" tried to prejudice the members of the Senate saying Sir Pherozshaw brought this motion out of personal feeling against the Vice-Chancellor, because the latter ruled him out of order. In course of a long speech Sir Pherozshaw said that he felt the rules framed years ago required to be modelled. Discussion followed in which some Fellows remarked there was element of personality and so the proposition was postponed for some time. Others said the rules required remodelling and Sir Pherozsha's speech was the most convincing. Amendment of Mr. Natarajan that the matter should be postponed for six months was lost and the Senate adjourned to next week when the proposition would be considered.

Senate Meeting July, 2 1912

ALLAHABAD UNIVERSITY.

LL. B. Examination Results 1912 :—

FINAL EXAMINATION :—

Second Class.—1 Ajudhiya Prasad Pathak, 4 Bhawani Shanker Joshi, 5 Bisheswar Nath, 7 Brij Behari Lal, 9 Dhani Ram Misra, 11 Hari Singh Dosaj, 12 Jai Narain Singh, 14 Janki Prasad Sinhal, 16 Kanhaiya Lal, 18 Lachhu Singh Dewan, 19 Kunwar Lakhan Singh, 22 Oukar Prasad Bhargava, 23 Raghubar Sahai Raizada, 24 Ranjit Mal Muhta, 25 Ram Prasad, 27 Satis Chandra Das, 29 Shambhu Dayal Gupta.

Agra College

First Class.—42 Hamid Hasan, 46 Modh. Anwar Ali Faruqi, 53 Mahomed Abdul Nayeem, 55 Mahomed Hamid Hasan Ansari.

M. A. O College Aligarh

Second Class.—36 Abdul Majid Mahomed Abdul Azim Sidiqi, 37 Bardul Hasan, 39 Debi Chandra, 40 Fazal Husain, 43 Kanhayiya Lal Gupta, 45 Mir Turab Ali, 49 Mahomed Idris, 50 Mahomed Athar, 54 Mahomed Mohsin Alley, 56 Mahomed Sabir Ali Khan Sharvany, 57 Mahomed Aquib Nomani, 59 Manihar Sohan Lal, 60 Rajendro Kumar Bhattacharya, 62 Salamuddin Khan, 63 Sheikh Iftikhar Ahmad Shah.

First Class.—65 Anrup Chandra Mukerji, 117 Kanhaiya Lal Yadu, 131 Mahomed Wahid Ullah, 147 Ram Prasad Deshmukh, 149 Ram Dayalu Sinha, 163 Shri Ram Misra, 172 Shafkat Hussain Manvey, 176 Swarup Chandra Gupta, 183 Vaman Narayan Dabholkar, 185 Yeshwant Laxman Guney, 187 Yatish Chandra Roy.

University School of Law Allahabad

Second Class.—66 Aditya Prasad Bagchi, 68 Anusuya Prasad Ghildial, 69 Amar Nath, 71 Ali Husain Syed, 73 Ahmed Ilyas Adhami, 75 Bansi Dhar Misra, 76 Bhairab Datt Bhandari, 77 Braj Mohan Vyas, 78 Bisveswar Chatterji, 79 Bhupatroy Mohanlal Buch, 80 Balram Agarwala, 82 Bishambhar Nath Saksena, 83 Behari Charan Saksena, 85 Baleswari Prasad, 86 Brij Behari Lal, 91 Chandra Lal, 93 Dashottar Shamrao Ramchandra, 97 Gajadhar Prasad Jayasval, 99 Ghulam Murtaza, 100 Gopal Govind Roy, 103 Gur Prasad Sarkar, 104 Ganpatrao Mangeshrao Wagle, 106 Govind Shyamrao Pharas Khanewal, 108 Ganga Pratap Gupta, 112 Janak Kishore, 115 Jyotindra Kumar Sanyal, 116 Jagdamba Prasad, 118 Krishan Nath Kaul, 119 Kedar Nath Khandelwal, 121 Laxman Prasad, 125 Misri Lal, 126 Madan Mohan Sheth, 127 Muhabat Singh, 132 Mahadeo Saran Pande, 135 Mahesh Prasad, 136 Mahomad Abdul Ghani, 139 Nilambar Pant, 140 Narayan Jandardan Koranne, 142 Pradyumna Krishna Kaul, 151 Ram Chandra Mishra, 153 Katan Lal Tatrey, 154 Raghubar Dayal Jain, 155 Shiv Narayan Lal Vaishya 156 Shiv Dayal Tiwari, 157 Shiv Ram Sharma, 159 Som Prakash Sharma, 160 Sri Kishan Tewari, 164 Syed Mojiz Hasan, 165 Suraj Prasad Varma, 166 Syed Mahomed, 169 Sitla Saran Srivastava, 170 Shiv Harak Lal, 173 Syed

Jawad Husain, 174 Sheikh Mahomed Shoib, 175 Sri Krishna Joshi, 178 Shitala Prasap Srivastava, 184 Vireswar Nath Roy.

CANNING COLLEGE LUCKNOW.

Second Class.—191 Sitala Sahay.

Second Class.—192 Amrita Lal Mukerji, 193 Iswas Das, 194 Kazi Bashiruddin Ahmed, 195 Paras Das Jaini, 196 Rameswar Dayal Sharma, 197 Ramji Lal.

MEERUT COLLEGE.

First Class.—210 Dravid Narayan Vithal, 228 Pathak Umesh Datta.

MORRIS COLLEGE, NAGPUR.

Second Class.—199 Abdul Latif Khan, 202 Athvale Kashi Nath Janardan, 206 Chandwasker Kashinath Hanmant, 211 Gupta Mohan Lal, 212 Hadap Gopal Ambadas, 213 Joshi Gopal Kasihinath, 215 Khadikar Ganesh Balwant, 216 Kolte Moreswar Damodar, 217 Manmohan Lal, 220 Nagle Narayan Rajaram, 221 Nazareth Calistus Francis, 222 Pandit Balwant Hari, 223 Pandit Prabhakar Amrit, 224 Pandharipande Laxman Govind, 227 Pradhan Bhaskar Vinayakarao, 229 Paul Rajratnam Jacob, 233 Sen Jnanranjan, 234 Sidhaye Sakharam Bhikaji, 236 Syed Yasin, 237 Telan Wasudeo Govind.

PREVIOUS EXAMINATION :—

Agra College :—1st Class : 31, 2nd Class : 34.

St. John's College, Agra—1st Class : 2, 2nd Class : 1.

M. A. O. College Aligarh :—1st Class : 16, 2nd Class : 13.

University School of Law, Allahabad—1st Class : 80, 2nd Class : 80.

M. C. College, Allahabad—2nd Class : 1.

Canning College, Lucknow : 2nd Class : 2.

Meerut College :—1st Class : 4, 2nd Class :—4.

Morris College, Nagpur :—1st Class : 28, 2nd Class : 19.



State Technical Scholarships 1912

The Government of India have this year sanctioned the award of ten State technical scholarships to the following candidates for a course of training in Europe in the subjects noted against each :—

Madras :—Mr. Tombat Sakharama Rao, electrical engineering ; Mr. D. Sadasivam, practical work in applied chemistry and the manufacture of the textiles subject to the production of a medical certificate as to his physical fitness to undergo the course of study proposed ; Mr. D. N. Nagarkatti, paper making, subject to the production of a medical certificate as to his physical fitness to undergo the course of study proposed ; Mr. E. C. Henriques, architecture—he will undergo a training for two years in India and then proceed to Europe for a third year to complete his training.

Bengal.—Mr. P. R. Duncan, mechanical and electrical engineering ; Mr. Chandra Sekhar Sarkar, mechanical and electrical engineering.

Punjab.—Mr. Lashmi Das.

Burma.—Maung Ba Chit, mechanical and electrical engineering, subject to his passing the B. Sc. Examination.

Bihar and Orissa.—Mr. Bhubanananda Das, mechanical and electrical engineering, subject to his passing the B. E. examination.

Central Provinces.—Mr. K. C. Mitra, electrical engineering.

Liberal Donations to the Government College of Commerce Bombay

His Excellency the Governor of Bombay received the following very generous promises of support towards the establishment of a Government College of Commerce in Bombay :—(1) Sir Jugmohandas Vurjeevandas, Rs. 2,25,000, towards the founding of a professorial chair to bear his name. (2) Trustees of the Wadia Charities,

Port Trust bonds yielding Rs. 4,800 per annum, towards the founding of a chair to bear the name of Mr. N. M. Wadia. (3) Sir Chinubhai Madhavlal, Rs. 1,00,000. (4) The Bombay Chamber of Commerce, Rs. 1,500 per annum. (5) The Mill-owner's Association, Bombay. (6) The Indian Merchants' Chamber and Bureau, Bombay. (7) The Bombay Native Piecegoods Merchants' Association, and (8) the Millowner's Association, Ahmedabad, Rs. 1,000 per annum each. The income thus provided will amount to about Rs. 23,000 per annum, and the Government are prepared to contribute an annual grant of Rs. 15,000. The liberal and most gratifying supports which the proposed college thus received will enable it to be established although additional funds will be required to make the institution complete in all respects and to provide scholarships. Details will now be worked out and it is hoped that a beginning may be made next year with a staff of two professors (one to act as principal) and two lecturers as soon as the necessary arrangements have been made. An advisory board will be formed on which commercial bodies will be represented in order that the courses of study may be kept in full harmony with the practical requirements of commerce and industry. The Governor in Council trusts that the establishment of this college, which is the first of its kind in this country, will in time go far to supply the growing need of special commercial education not only of the presidency but of India generally.



Mr. R. J. Tata's Unique endowment to London University

Mr. Ratan J. Tata has made a unique endowment to the London University. The endowment consists of a donation of £1,400 a year for three years. The object is to institute research into the principles and methods of preventing and relieving destitution and proverty. The Senate of the London University have conveyed their thanks to Mr. Tata. The details of the scheme will be announced later.

OXFORD UNIVERSITY.

Professors, Readers and University Lecturers for the Michælmas term (beginning October 1912.)

I. Divinity.—1. Regius Professor of Divinity: H. S. Holland D. D., Hon. D. Litt. Lady Margaret Professor of Divinity: W. Sanday, D.D. 3. Regius Professor of Hebrew: S. R. Driver, D. D. 4. Regius Professor of Pastosal Theology: R. L. Ottley, D.D. 5. Regius Professor of Ecclesiastical History: E. W. Watson, D D 6. Dean Ireland's Prof. of Exgesis: W. Lock: D D. 7. Oriel Professor of the Interpretation of Holy Scripture: G. A. Cooke, D.D. 8. Grinfield Lecture on the Septuagint: Rev. P. F. Burney, M.A., D. Litt.

II. Law—1. Regius Professor of Civil Law: H. Gondy, D.C.L. 2. All Souls Reader in Roman Law: F. de Zulueta M.A. 3. Vinerian Professor of English Law: W. M. Geldart, B. C. L., M. A. 4 All Souls Reader in English Law, W. S. Holdsworth, D C.L. 5 Lecturer in Criminal Law and the Law of Evidence: V. M. Coutts Trotter M.A. 6 Chichele Professor of International Law and Deplomacy: Sir H. Erle Richards, B. C. L., M. A. 7. Lecturer in Private International Law: A. V. Dicey, Emeritus Professor. 8. Corpus Professor of Jurisprudence: P. Vinagradoff, M.A., Hon. D.C.L. 9. Reader in Indian Law: Sir E. J. Trevelyan, D.C L.

III. Medicine.—1. Regius Professor of Medicine: Sir W. Osler, Bart., D.M. Hon. D. Sc. 2. Professor of Pathology: G. Dreyer, M.A. 3. Lecturer in Pathology: E. W. A. Walker, D.M. 4. Litchfield Clinical Lecturer in Medicine: W. T. Brooks, M.A. 5. Litchfield Clinical Lecturer in Surgery: R. H. A. Whitelocke (M.D. Edin.). 6. Waynflete Professor of Physiology: F. Gotch, M.A., D.Sc. 7. Professor of Human Anatomy: A. Thomson, M.A. 8. Lecturer in Applied Anatomy: A. P. Dodds Parker, B.M., M.A.

IV. Natural Science.—1. Savilian Professor of Geometry: W. Esson, M.A. 2. Savilian Professor of Astronomy H. H. Turner, M.A., D.Sc. 3. Waynflete Professor of Mineralogy: H. L. Bowman, M.A., D.Sc. 4 Sedleian Professor of Natural Philosophy: A. E. H. Love, M.A. D.Sc. 5. Waynflete Professor of Pure Mathematics: E. B. Elliott, M.A. 6. Linacre Professor of Comparative Anatomy: G. C. Bourne, M.A., D.Sc. 7. Lecturer in Comparative and Experimental Embryology: J. W. Jenkinson, M.A., D.Sc. 8. Professor of Experimental Philosophy: R. B. Clifton, M. A. 9. Wykeham Professor of physics: J. S. E. Townsend, M.A. 10. Professor of Engineering Science: C. F. Jenkin, M.A. 11. Waynflete Professor of Chemistry. J. Watts, M.A. 12 Waynflete Professor of Physiology: F. Gotch, M.A, D.Sc., 13. Reader in Physiology: J. S. Haldane, M.A. 14 Professor of Geology: W. J. Sollas, M.A. 15. Lecturer in Geology: A Vaughan, M.A. 16. Sherardian Professor of Botany: S. H. Vines, M A. 17. Sibthorpian Professor of Rural Economy: W. Somerville, M A. D.Sc. 18. Professor of Forestry: Sir W. Schlich, M.A 19. Reader in social Anthropology: R. R. Marrett, M.A.

V. Literæ Humaniores.—1. Regius Professor of Greek: Gilbert Murray, M A., D.Litt. 2. Corpus Professor of the Latin Language and Literature: R. ELLIS, M.A. 3. Reader in Latin: A. C. Clark, M.A. 4. Professor of comparative Philology: J. Wright, M.A. 5. White's Professor of Moral Philosophy: J. A. Stewart, M.A. 6. Waynflete Professor of Moral and Metaphisical Philosophy: J. A. Smith, M.A. 7. Wilde Reader in Mental Philosophy: W. McDougall, M.A. 8. Wykeham Professor of Logic: J. Cook Wilson, M.A. 9. Camden Professor of Ancient History: F. Haverfield, M.A. 10. Wykeham Professor of Ancient History: J. L. Myres, M.A. 11. Lincoln and Merton Professor of Classical Archæology and Art: P. Gardner, M.A. 12. Lecturer in Classical Archæology: L. R. Farnell, M A. D.Litt. 13. Lecturer in Greek Epigraphy: M. N. Tod, M.A. 14. Lecturer in Papyrology: A. S. Hunt, M.A., D.Litt.

VI. Oriental Languages and Literature—1. Professor of Assyriology: Rev. A. H. Sayce, M.A., Hon. D. Litt. 2. Lecturer inAssyriology: C. J. Ball, M.A., D. Litt. 3, Lecturer in Aramaic: J. F. Stenning, M.A. 4. Laudian Professor of Arabic: Rev. D. S. Margoliouth, M.A., D. Litt. 5. Egyptian Teacher of Arabic; Sheikh Mohammed Ahmad Gad Al-Maula. 6. Shillito reader in Assyriology: S. Langdon, Hon. M.A. 7. Boden Professor of Sanskrit: A. A. Macdonell, M.A. 8. Professor of Chinese: T. L. Bullock, M.A. 9. Professor of Zend Philology: Rev. L H. Mills, Hon. M.A. 10. Lecturer in Persian: G. S. A. Ranking, M.A. 11. Lecturer in Hindustani: W. Hoey, M.A. 12. Lecturer in Tamil and Telugu: M. de Z. Wickremasinghe, Hon. M.A. 13. Lecturer in Marathi: C. H. Keith Jopp, M.A. 14. Lecturer in Bengali: J. F. Blumhardt, M.A. 15. Lecturer in Burmese: J. E. Bridges, M.A.

VII. Modern History.—1. Regius Professor of Modern History: C. H. Firth, M.A. 2. Chichele Professor of Modern History: C. W. C. Oman, M.A. 3. Chichele Professor of Military History: Spenser Wilkinson, M.A. 4. Deputy reader in Indian History: V. A, Smith, M.A. 5. Beit Professor of Colonial History: H. E. Egerton, M.A. 6. Drummond Professor of Political Economy: F. Y. Edgeworth, M.A. 7. Reader in Economic History: L. L. Price, M.A. 8. Reader in Political Theory and Institutions: W. G. S. Adams, M.A. 9. Lecturer in Diplomatic: R. L. Poole, M.A. 10. Professor of Geography: A. J. Herbertson, M.A. 11. Lecturer in Mediæval Palæography: F. Madan, M.A.

VIII. Modern Languages and Literature. 1. Merton Professor of English Language and Literature and Rawlinsonian Professor of Anglo-Saxon: A. S. Napier, M.A., D. Litt. 2. Professor of Literature: Sir W. A. Raleigh, M.A. 3. Goldsmiths' reader in English: D Nichol Smith, M.A. 4. Reader in Rusian: N. Forbes, M.A. 5. Taylorian Professor of the German Language and Literature: H. G. Fiedler, M.A. 6. Taylorian Lecturer in German: L. A. Willoughby (M.A. London, Ph. D. Vienna). 7. Taylorian Lecturer in German: K. Jost (Ph. D. Basel). 8. Taylorian Professor of the Romance Languages: H. Oelsner, M.A. 9. Taylorian Lecturer in French: H. E. Berthon, M.A. 10. Taylorian Lecturer in French: E. Fannere Lic-es-L 11. Taylorian Lecturer in Italian: C. Foligno, M.A. 12. Taylorian Lecturer in Spanish: F. de Arteaga, M.A. 13. Taylorian Lecturer in the Scandinavian Languages: W. A. Craigie, M.A.

Oxford and the Indian Civil Service

Out of the fifty-two successful Candidates at the Entrance Examination held in 1911, twenty nine were members of the University. Of this number seven have elected to spend their Term of Probation elsewhere than at Oxford.

Three of the successful Candidates, who were not at the time of the Examination members of the University, have elected to spend their Term of Probation at Oxford.

The number of Selected Candidates in Oxford during Michaelmas Term, 1911, was therefore twenty-five.

The conduct and diligence of the Probationers during the year 1911 have been satisfactory.

THE WORLD OF UNIVERSITIES

YALE UNIVERSITY U. S. A.

Progress Report during the First Semester of the First year

By

DHIRENDRA KUMAR SARKAR,

(*of the National Council of Education Bengal.*)

Subject.	Books, etc.	Class work required.	Home work.	Additional in Lab.	Total hours of work.	Result.	Remarks.
1. Qual. anal.	(*a*) Lab. Guide by Prof. Wells.	180	—	20	200	B	I used to consult at home Fresenius Qual. anal.—on actual complete anal. The course covers important elements in the several groups and important acid radicals. I did two more actual analyses—I was a week late.
	(*b*) Lect. by Prof. Wells on the methods with Equations. ...	36	72	—	108	B	
2. Quant. anal. Gravimetric	(*a*) Lab guide book—a small pamphlet by Wells and Foote. ...	300	—	100	400		The course comprise grav. determination of important elements in compounds, analyses of simple alloys, *e.g.*, brass, german silver, some typical Mineral analysis, *e.g.*, Gypsum, dolomite, sphalerite, Talc, Felspar, Triphylita. I did two *more* 1 lead ore and 1 copper ore, besides finished Triphylite, which all are not required to do.
	(*b*) Lect. on Grav. methods and on chem. arithmetic treating specially with errors in weighing, calculation etc. ... "Chem. Arithmetic"—By Prof. Wells.	40	60		100		
3. Organic Chemistry.	"Organic Chem" By Prof. Holleman Fall Term. ...	(lect) 36	108	—	144	E	Principal hydrocarbons, alcohols, aldehydes, acids ethers, esters, amines and nitro compounds of both aliphatic and aromatic Divisions.
	Winter § ...	60	10	20	90	A	Important Organic methods and manipulation of organic apparatus.
Organic (contd.)	Holleman's Text Book of Organic chem. Spring lect. and Recitation.	30	75	—	105		Polybasic alcohols, aldehydes and acids and complicated organic compounds. This course was intended to make a very rapid survey of a moderately large Text Book showing all Sorts of Organic reaction. Without an advanced course in this Subject, its effect will be completely lost.

Subject.	Books, etc.	Class work required.	Home work.	Additional in Lab.	Total hours of work.	Result.	Remarks.
4. Determinative Mineralogy.	Brush and Penfield's Determinative Mineralogy and a Lab. guide small pamphlet, by Penfield. Lect. silver, assay and Test for Rare elements and Lab.	66 (Lab and Lect) (7+21) 28	14 ...	20 ...	100 28		Blow pipe test for important elements in minerals with determination of 50 important minerals. I did 12 more. In spring we had a practical silver assaying and test for Co, Ni, Cr, V, U, Te, Se, Nb etc in Minerals.
5. Crystallography and Descriptive mineralogy.	Lect	40	(Prep. 40 + Notes) 60 100	15	155		All the six crystals systems with important groups illustrated by about 200 minerals in them. Notes from lect. were to be taken and submitted for exam. in logical form.
6. German (elementary)	1. Whitney's Grammar 2. Wilkommen in Deustchland 3. Germelhausen	96	240	...	336		Declension of Nouns, pronouns and adjective conjugations of verbs Important rules of syntax.
7. French (Elementary)	"Elementary French" by Foster and Aldrich "French Reader" by the same.	96	192	...	288		In spring half-term verbs mostly irregulars about 10 in all were to be submitted at each exercise.
8. Math. Freshman)	"Elementary analysis" by Smith and Granville.	36 21	108) 42)		114 63	C	In fall term we had simple analytical geometry with some practice in curve plotting: Subject. Equations, curves, st. lines, circles, slope, Normal, Tangent, Simple treatment. In spring we had Calculus; rules of Differentiation and Integration and Simple application to Problems.
				Total hours	2261		

B. Outside Reading.

1. Magazine		...	...	...	250	
2. Out books	Introduction to Middle Ages—Emerton. Comus. Paulsen. Poverty. Modern Germany-Ruskin's Essays Indian craftsman. Freetrade and Protection R. C. Dutt's Civilisation. বঙ্কিম etc.	...	...	...	250	
3. Newspapers		...	...	...	62	
				Total ...	2823	hours.

WHAT OUR STUDENTS ARE DOING ABROAD.

Wranglers

The wranglers inculde Mr. Ramamurti of Madras University and Mr. Bhupati Mohan Sen of the Presidency College Calcutta. Mr. Sen joined the King's College, Cambridge after passing the M. Sc. Examination of the Calcutta University in the year 1910 in First class (1st) and secured a scholarship of £80 at the end of his Part I.

Mr. Inayatalla Khan.

The mechanical sciences tripos, which was published at Cambridge on June 12 was notable for the success of Inayatalla Khan, who, although only placed in the second class, is believed to be the first man to take honours in four different triposes. He is an Indian, and after being bracketed 27th Wrangler in 1909 he obtained a first class in the Oriental languages tripos and a third class in the natural sciences tripos two years later. He must be placed in the front rank of Indians who have been educated in this country.

Some Scientific and Industrial Association students' Successes

Some of the students of the Association for the Advancement of Scientific and Industrial Education of Indians who have been sent abroad have been eminently successful. Mr. R. N. Das has obtained the M. Sc. Degree (Agriculture of the University of Missouri, America) and also a Research Scholarship of Rs. 750 a year. Mr. U. N. Roy has obtained the M. Sc. Degree in Mining Engineering from the University of California. Mr. C. Ghose has obtained the Fellowship of the Worshipful Company of Spectacle Makers and also passed the examination for the Membership of the British Optical Association. He has also obtained the Freedom of the City of London being the first Bengalee and the second Indian to get the honour.

Indian Accountants.

Intimation has been received that Mr. Mahadev R. Tambe, B. A., L. C. E., of Messrs. K. S. Aiyar & Co. Bombay, has just passed the Final Examination of the Society of Incorporated Accountants held this year in London. Another apprentice of this Firm Mr. A. S. Madon B. A. having passed his final examination in December last, has been elected an Incorporated Accountant. Intimation has been received that Mr. N. Ramier, B. A. Accountant of the Swadeshi Life Assurance Company, Limited, of Bombay, has been declared to have passed Part I of the Institute of Actuaries examinations held in April last.

Uiqnne success in Law Examination.

Mr. Kottapalli Subba Reddi, of Madras, stands first in the Final Examination of the Inns of Court this year and secures a studentship of 100 guineas a year tenable for three years.

A new F. R. E. S.

Mr. Sudhir Lall Banerjee, of the Ahirectola Banerjee family, has been elected a Fellow of the Royal Economic Society of London. He is at present engaged in compiling a work on Indian Banking and Currency.

Certificate of Identity required for Students going abroad

The Secretary of State for India has brought to the notice of the Government of India that it not infrequently happens that natives of India, students or others, who have proceeded to England, desire to obtain passports to enable them to travel to foreign countries in which the possession of a passport is necessary or desirable, and that difficulty often arises from want of evidence to show that the applicant is a British subject and therefore entitled to a passport. Appeals for assistance are also frequently addressed to His Lordship by destitute Indians who desire to return to their country and by students who, owing to embarrassed circumstances, are unable to complete their course of education.

2. In order to enable the Secretary of State to deal with such cases satisfactorily, the Governor General in Council has decided that it is necessary to press upon Indian students and others visiting England the desirability of providing themselves, before their departure from India, with an authoritative certificate of identity, in the form appended to this resolution, signed by the head of the district (in a presidency town the Commissioner of Police) in the case of residents of British India, and by the political officer in that of residents of native states. For a student the certificate should be signed by the head of his last school or college and countersigned hy the district officer (in a presidency town the Commissioner of Police) or political officer, as the case may be.

Form of certificate of identity.

1. Name of applicant. 2. Father's name and caste. 3. Residence. 4. Age of applicant. 5. †Nationality of applicant. 6. Social and pecuniary status of father (or guardian). 7. Date of probable departure of applicant from India. 8. Object of applicant's visit to England (Europe).

[*Signature of district officer (in a presidency town the Commissioner of Police) or political officer or head of school or college*]‡

The following Indian gentlemen were successful at the general examination of students of the Inns of Court, held in Lincoln's Inn Hall on May 20, 21, 22, 23, and 24. L. I. denotes Lincoln's Inn, I. T. InnerTemple, M. T. Middle Temple, and G. I. Gray's Inn.

† *i e.* Whether a British subject by birth or by naturalization (or a subject of a native state.

‡ Countersignature of the disirict or political officer should be obtained on certificates signed by heads of schools or colleges.

Indian Successes at the Final Examination of students of the Inns of court

Final Examination.—Class I (in order of merit). Kottapalli Subba Reddi (1st.) G. I. (Studentship of 100 guineas a year, tenable for three years); Ram Rakha Mal Bhandari (4th.), L. I.; Vallabhai Javerbhai Patel (5th.), M. T.; Sachindra Nath Ghose (11th), G. I. (certificates of honour). Class II (in order of merit); Debendranath Mitra (4th), L. I.; Jai Gopal (6th), G. I.; Debendranath Basu (7th) L. I.: Arabinda Ray (8th) L. I.; Shaikh Ghulam Ahmad (10th), M. T; Vaman Atmaran Kirtikar (12th), G. I.; Manilal Bhagwandas Subedar (14th), G. I.; Nrisinhadas Bhagwandas Vibhakar (18th), G. I.; Pestanji Pirojsha Docror (21st), G. I.; Shivanath Singh (23rd), L. I.; Abbas Ali Khan (24th), L. I.; Syed Bashir-uddin (29th), M. T. Clsss III (in alphabetical order: Wazir Hasan Akcbari, L. I.; Shantawan Narayen Athawale, and Syed Abdul Aziz, G. I.; Mohammad Saddiq Babar, L. I.; Satish Chandra Bagchi, G. I.; Sudhindra Nath Banerjee, L. I.; Asoka Mohan Basu, G. I.; Mirza Abdul Wahab Beg, M. T.; Satyendra Nath Bose, L. I.; Kailas Nath Chak, M. T.; Sarab Dayal, M. T.; Kulwant Rai Dhandat M. T.; John Dhar, L. I.; Cowasji Merwanji Dotivala, M. T.; Abdul Ghani, L.I.; Syed Zayar Hosain, M.T.; Syed Sardar Husainand Sheikh Mohammad Ikram, LI.; Nural Islam and Vinjamuri Gopal Krishna Iyengar, L. I.; Mohammad Jaffar and Pherozeshah Hormusji Judge, M. T.; Abdul Mannan Khan, L. I.; Enayat Ullah Khan, M.T.; Bhojraj Lalchand Kundanani and Gopal Lal, L. I.; Raj Kishore Lall, M. T.; Minuchehirbeg Ghulam Razabeg Mirza and Nadarbeg Kalichbeg Mirza, M. T.; Dina Nath Narang, L. I. Jawaharlal Nehru, I. T.; Pratap Sitaram Pandit and Lawrence Pillay, M. T; Mathura Prasad, M. T.; Atma Ram, L. I.; Syed Mustafa Raza, M. T.; Silam Jagannatha Row, L. I.; Prabhala Vencatarama Sastri, G. I.; Hiralal Motilal Shah, G. I.; Ikram Ullah Shah, Gouri Shankar, and Suraj Moni Sharma, L. I.; Sada Ram Thind, M. T.; Ardeshir Ruttonji Wadia, and Syed Hasan Zaidi, M. T.

Will Power as a Feature of Character.

By Miss Mary Logarty, Glencolumbkille N.S., Co. Clare Ireland.

We are told that when Demosthenes was asked the question: "What is the chief part of an orator?" he answered, "Action." "What next?" "Action." "What next again?" He repeated his former answer, "Action.' This was the conviction of one who was a master of the art, and consequently knew better than any other what was most needed in order to become an orator. So, in the same way, when we put ourselves the question, "What is the chief part of character?" the answer is "Will power." It is this more than the other elements of which character is composed that has enabled men to achieve wonders in every sphere of life and to control their passions within the bounds of reason and religion.

Truth, honesty, courage, generosity are admirable qualities in the life of an individual, but if not accompanied by will power there is a serious defect in the character. A watch may be composed of the best material, and may be beautiful to look at, but if the mainspring be defective, all the other parts, however perfect, will not compensate for the flaw, and it will be unreliable as a timekeeper. What the mainspring is to a watch, will power is to character. One who possesses it may be a bad-living man, but he will not be a weak one, for he possesses that invisible determination which can accomplish anything but the impossible.

History affords many instances of what will power can accomplish. The Roman Senate knowing the determination of Cæsar, laid down certain limits beyond which he was not to pass. Setting at naught its power, he crossed the Rubicon and commenced a series of victories over the greatest war captains of the period that have placed him in the forefront of great military leaders. Nearer our own time, we have another instance of what a determined will accomplished in the face of almost insuperable difficulties. Marshal MacDonald, one of Napoleon's bravest and most faithful lieutenants, was ordered by his master to lead fifteen thousand troops over the Splugen by a dangerous bridle-path. Brave as he was, he hesitated to do so, and sent one of his officers to Napoleon to lay before him the risks and the dangers of such an undertaking in the winter season, when avalanches are detached from the higher peaks of the mountain, and with a force, which no earthly power can resist, bear down everything that lies in their course to the plains or the gorges below, where their force is arrested. Napoleon sent him the order: "I will make no change in my disposition Return quickly," said he to the officer, "and tell MacDonald that an army can always pass in every season where two men can place their feet." This was enough for the Marshal. Immediately he began the ascent of the mountain, along a path covered deep with snow. Close to the paths in many places were gorges with jagged rocks which mangled the unfortunate man or beast that chanced to slip or fall over. To add to the terror of such a dangerous undertaking, the army was overtaken by a snowstorm which lasted three days, and was of such a nature that it struck terror into the hearts of veteran soldiers, for whom the din of battle had but little fear. Huge avalanches come bounding from the higher reaches of the mountains, precipitating horses and men to the deep gorges below, where they found their grave deep in the snow.

In the midst of such terrors and dangers, the soldiers lost heart and showed a disinclination to advance. The Marshal, in order to prevent a panic, took a pole in his hand, and going to the front of the column, whose passage was blocked with snow several feet deep, addressed the men thus: "Soldiers, your destinies call you into Italy; advance and conquer, first the mountains and the snow, then the plains and the armies." The drooping spirits of the soldiers revived. They felt it a reproach not to follow a leader who encountered the same difficulties and braved the same dangers as themselves. Though avalanches continued to bound from the mountain, and to plough their way through the

struggling ranks like discharges of artillery in the field of battle, the soldiers, following the example of their leader, pressed forward with difficulty. Under such hardships and dangers the passage of the Splugen was effected at a great loss of life under the leadership of a man of indomitable will.

But we need not confine ourselves to history in order to see what a determined will can accomplish : we have only to observe our acquaintances to be convinced of the fact that will power is the great factor which determines the success of each. There is no one, perhaps, who cannot recall instances of his own school-fellows or associates who have achieved success in various spheres, and of others who have been complete failures. When one reviews the conditions under which each set out one will often find that the former very often laboured under the disadvantages of poverty, had no influential friends to obtain positions for them, or help them on ; no means of obtaining a good education in their early days, and despite all these drawbacks have achieved success in business, or filled a good position in various walks of life, while their more favoured companions who had every advantage at the start have signally failed, or are in humble positions. Why is this ? One reason is to be found in the old proverb : "Where there is a will there is a way." Those who have been successful had the will to succeed. They studied or they persevered at some business or profession with a determination to succeed, and thus overcame the obstacles that came in their way. Those who have accomplished little or nothing owe their failure in a great measure to weak and irresolute wills, which shrank from the slightest difficulties and hestitated to embark on any enterprise that demanded risks, labour or industry.

To-day more than ever before there is need of a determined will, owing to the change that has come about in the fight for existence. Formerly such as had interest secured good positions, which they were not always qualified to fill, while such as were better educated had to seek for the means of existence in humbler spheres, where they had no field for their talents. All that has been now changed for the healtheir mode of competition, which gives all who have character and ability an opportunity to capture positions from which they would in days gone by be rigidly excluded. The keen competition this state of things excites excludes all who have not a determined will to persevere in some project or profession, and thus overcome the obstacles that stand between them and the goal of their ambition. Without this determination to succeed there can be no success.

Some years ago, when the idea of flying machines was first mooted, many learned and scientific men regarded such an innovation as chimerical. The earth, they said, was man's element, and the air that of the bird's, and man should not usurp an element for which Nature never intended him. Those who conceived the project of flying were not deterred by the ridicule showered upon them, nor by the repeated failures they experienced in their initial attempts to fly. They persevered, and with a tenacity that enabled them to overcome now one obstacle and then another, until they have perfected flying machines that enable them to out-distance the swallow in swiftness and the eagle in its power of soaring above the clouds.

It is this determined purpose to succeed that has accomplished wonders in the literary and scientific world. Shakespeare had to go through the alphabet like any ordinary child. Like many others who have attained eminence, his first literary attempts were perhaps crude, and confined to the flames. Had he given up after some failures the world would never have heard of him. But he had in his composition a determination to succeed, and as a result he has left to posterity a name and a literature that will be handed down to all future ages, without any diminution of lustre. What he has accomplished for literature others have achieved in the domain of science. They have weighed and analysed the air by which we live, laid open before before us the revolutions through which the earth we inhabit has passed in the cycles of ages that have rolled by since the world was created. They have discovered the tiny microbe and traced with unerring accuracy its mode of

living, its destructive effects, and to a great extent minimized or arrested its ravages But it is not alone in what requires deep thought and close observation that men of determination have rendered valuable services to science and humanity, but even in common things that come under our notice every day. How very few bestow a thought on the benefactor, whose grave is unknown, that first conceived the idea of making warm clothing from the wool of the sheep. To effect this he must have bestowed a good deal of thought on the arts of carding, spinning and weaving, all which process had to be gone through before he could achieve his purpose. We may be certain that he met with many obstacles, but he was not deterred by them, and the success that attended his labours has ranked him amongst the greatest benefactors of mankind in every age and clime. Almost the same thing may be said of the thousand objects that come daily under our notice and are of the greatest services to mankind. They are all the product of men of determined will, who directed their thoughts to the achievement of some project—men whose names are unknown but whose services are daily felt by rich and poor, by the learned and the ignorant. These, perhaps, never bestow a thought on the benefactors who devoted months and years of their lives to the perfection of valuable implements, or the invention of some useful machine, or the discovery of some article of comfort that has proved to them a boon and a blessing.

In vain will we glance over the pages of history to find an individual of a weak and irresolute will who has accomplished anything of importance for literature, science or art. Perfection in any of these requires unceasing industry and painstaking labours for years in many instances, and often repeated failures which would discourage any but such as have the will to succeed. The irresolute have not this, and though they may conceive great projects and propound grand theories, they cannot realize their ideals, and in consequence never play an important part in the political, literary or scientific world.

But it is not to attain success in any one of these that a determined will is needed. It is needed by all who have acquired bad habits and wish to shake them off, by such as are exposed to the seductions of society and are desirous to escape its dangers, by sinners who are anxious to return to the path of righteousness; in fine, by all who desire to control the operations of their wills and to obtain over themselves that most desirable quantity, self-control. When the Prodigal Son who followed the bent of his evil inclinations and fell to the lowest level of moral degradation, felt in all its intensity the misery of his state, he said to himself "I will arise and go to my Father," he gave an example of that will power which is so necessary for all who like him have strayed from the path of righteousness. Should they imitate his repentance, the beginning must proceed from the will to do so. The efforts they make to reform will be in proportion to the will power they may possess. Where it is strong there will be a complete victory over self, and where it is but weak relapses are sure to follow.

Will power is also the great factor in the life of each individual for good or evil. When its operations are controlled by reason and religion the effects are always salutary; but when this is not the case no one can foresee the consequences which may follow. The rider of a mettlesome horse is comparatively safe as long as he has a bridle to control him, but should the reins snap he is powerless to restrain the speed or direct the movements of his mount, and at any moment may be precipitated to the ground with serious or fatal results. So it is with the various passions. As long as they are controlled by the will they can not obtain a mastery over human beings, but should the will offer no, or but a feeble, resistance, the passions will obtain the upper hand and lead their victim into all kinds of excesses This is the greatest evil that could befall them, for the moment they yield to self-indulgence they cease to live for the end for which they were created, and fall under the category of a certain class, as the Apostle tells us, in destruction.

There is, perhaps, no one comes in daily contact with children who does not notice a want of will power in many of them. Whether they have acquired this deficiency from heredity or from a love of ease, they shrink from the smallest difficulties they encounter, and are unwilling to make an effort to overcome them. Rather than compel them to do so, they will be permitted to cling to their old habits and move along lines where they meet the least resistance. The result will invariably be that they grow weaker by time and the seed thus sown will produce evil fruits in due course. Such children, it is to be feared, will grow up to be men of weak and irresolute wills, unless, indeed, they are handled with care, weaned from their early habits, and encouraged to make such efforts as will enable them to overcome their sloth and indifference. This is real education, for it is the formation of a will that will insure success in life, and will help those who are inured to it to combat passions that seek for self-indulgence.

MARY FOGARTY.

A World's Student Leader to visit India.

Few men are more widely known to the Universities of the world than John R. Mott, LL. D., the General Secretary of the World's Student Christian Confederation, which embraces in its membership over 1,50,000 students and professors, in over twenty different countries. The Federation consists of men of all religions, and no religion. It is predominantly a Christian Federation, yet so truly Christian and Catholic that it bands together a great number of Students of other religions who are broadminded enough to see the great possibilities of this union of the students of the world for the high purposes of promoting righteousness and the interests of the Kingdom of God on earth.

Several years ago, at a large public meeting in Calcutta, where tribute was being paid to the late Kali Charan Banurji, than whom fewer Bengalees have been more widely loved, someone referred to Mr. Banurji as a representative of the Christian community. Dr. Rash Behari Ghosh sprang to his feet in protest, and said, "Mr. Banurji represents us all." This has been the feeling of all nations with reference to Dr. Mott. He has been claimed as their acknowledged leader by students of many religions and of many countries.

After a most brilliant career in Cornell University, Dr. Mott received a very valuable scholarship for two years' study of political science in Europe, expecting to return to America to prepare himself for political life. Just at that time the Inter-collegiate Young Men's Christian Association was coming into being, and Dr. Mott was asked to give up the prospects of a political career to become the Chief Secretary of this promising movement. Soon he began to see the large possibilities of uniting the students of North America for the high purposes of public service and pure religion At this period the inter-collegiate and inter-university spirit was first beginning to make itself fell through the holding of inter collegiate athletic matches, inter-collegiate debates, inter-collegiate musical and literary festivals. Dr. Mott saw great possibilities in inter-collegiate co-operation for the strengthening of social service, personal morality, and genuine religion. He threw himself into this enormous task with an absolute abandon and sacrifice.

During the twenty two years Dr. Mott has given as the head Secretary of north American Student Young Men's Christian Association, the organisation has grown from the smallest beginnings until now there are over six hundred Student Associations in practically every important College, University, professional School and higher institution of learning in North America. In famous Universities like Yale, Toronto, Carnell, and Michigan, sometimes as many as a thousand different students in one year have been actively identified with the Association's work in their University, Atremendous change in the morale of the United States Military Academy at Westpoint and the Naval Academy at Annapolis, has been wrought since the organisation of the Association in these important institutions which are training the future leaders of the United States Army and Navy.

The North American Student Young Men's Christian Association, under Dr. Mott's leadership, has been of untold value in leading students, both Christian and non-Christian, to an intelligent, sympathetic, and scientific study of the original documents of Christianity, and has coupled with its deep religious spirit, an unselfish spirit of sacrifice and public service by enlisting hundreds of undergraduates in the actual work of social settlements and charity organisation societies.

In 1894. Dr. Mott started out on his first long tour around the world. As a result of this tour, which lasted about two years, student movements were organised in several European and Asiatic countries, and the foundations were latd for a World's Student Christian Federation. From that time up to the present. Dr. Mott has carried very heavy administrative burdens in connection with the various student movements in North America, and at the same time has served as General Secretary of the World's Federation, and spent many months almost every year in the different countries of Europe and Asia, as well as paying not infrequent visits to the lands in the Southern Hemisphere, such as South America, South Africa Australia, and New Zealand, Because of his wide travels, he was made a Fellow of the Royal

Geographical Society many years ago. Yale University, recognising his high service to the young men of the world, bestowed on him an honorary degree many years ago, and more recently Edinburgh and Princeton Universities have honoured him with the degree of LL. D. The principalships of more than a dozen important colleges and universities have been offered to Dr. Mott, but he has always taken the position that no work was more important than leading the spontaneous moral and religious life of the undergraduates of the world. He holds an important position in connection with one of the international peace foundations, for the place of the World's Federation in the promotion of international peace was early recognised. A famous ambassador to France once remarked that the World's Federation was doing more to promote friendship and mutual understanding among the students of the world than all the peace treaties and conferences put together.

Dr. Mott, accompanied by Mr Sherwood Eddy—Continental Secretary for Asia of the Young Men's Christian Association, will visit the five Indian Universities in November and December on his way to the principal Universities of China and Japan. A series of lectures will be given by Dr. Mott and Mr. Eddy, and attendance at these will be limited primarily to Indian students. Usually the largest Halls or Theatres that can be procured in the different Universities of the world are insufficient to hold the great crowd of students who turn out to hear Dr. Mott's lectures. It is hoped that in India some arrangement may be made by which the largest possible number of undergraduates may have the rare privilege of listening to the lectures by Dr. Mott and Mr. Eddy. Announcements will be made later as to the dates of these lectures. Full particulars can be obtained from the Secretary of the student Y. M. C. A. in Madras, Bombay, Lahore, Allahabad, and Calcutta.

At this time, when so much intelligent thought is being given by those who have at heart the highest interest of Indian students, along social, moral and religious lines, it is particulary fortunate that Dr. Mott and Mr. Eddy are to pay us a visit, for their wide experience to other countries will be sure to prove suggestive to Hindu, Christian and Mahomedan leaders throughout India. Dr. Mott makes no apology for being a Christian. He is not the kind of Christian who attacks the sincere adherents of other religions. What he does attack is thoughtlessness, superficial thinking, hypocrisy, and sin. The high regard in which he is held by the leaders of various religious faiths is a testimony to the transparent character of his own Christian faith. He frequently qoutes the significant remark of Archbishop Whately, "If my religion is wrong I ought to charge it. If it is right, I ought to propagate it." He has little sympathy for the lukewarm student whether he be Christian, Hindu or Buddhist, but for the sincere and earnest seeker after truth, whether he be a man of avowed religious belief or of no religion, Dr. Mott has the deepest sympathy, and to such he is a great help and inspiration.

All educated men who desire the highest welfare of the motherland, and who believe that the heavenly Father answers prayer, are asked to pray that the approaching visit of Dr. Mott and Mr. Eddy may be used in India as in other lands, for quickening and deepening the moral and religious sense of our great and important student population.

E. C. CARTER.

ARTICLES AND CONTRIBUTIONS
SPECIALLY USEFUL TO STUDENTS

Problems of General Philosophy.

BY PROF. SHIBESWAR DAYAL, M. A.,
OF BANKIPUR.

(*Continued from page 79, No. 1 May 1912 number of the Collegian.*)

Chapter II.

DIVISIONS OF PHILOSOPHY.

The Divisions of philosophy correspond to those of the world-series.

We have seen from the definition and province of philosophy that it tries to explain the universe as a whole ; and hence the various divisions or parts of philosophy will correspond to the several important factors of the world-series.

The three factors of the world-series are soul, nature and God.

There are three fundamental factors of the world-series *viz*, (1) soul or the system of finite, individual minds, (2) nature or the system of material world, and (3) God or the absolute power which evolves and keeps together both the above worlds of soul and nature (*i.e.*, mind and matter).

Hence the divisions of philosophy are (1) philosophy of soul (2) that of nature and (3) that of God.

Hence we have got three divisions of philosophy *viz*, (1) philosophy of mind or soul, (2) philosophy of nature or world (in the narrower sense), and (3) philosophy of God or the absolute.

But as philosophy tries to have a knowledge of the above factors, it must deal with Epistemology i,e discuss the conditions and limits of knowledge itself. This is the foundation, the other three divisions forming the superstructure.

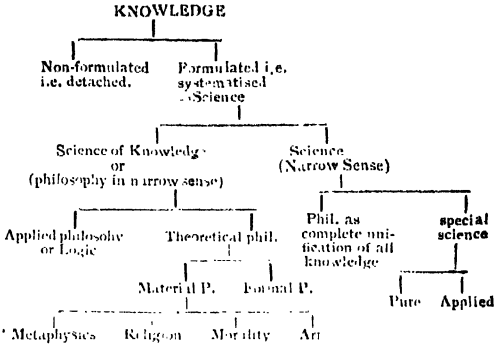
But philosophy, attempts to arrive at a knowledge of the above three factors, and therefore it must examine what are the conditions and limits of knowledge itself, proving that knowledge of reality is within its power (*i.e.*, philosophy must demolish scepticism, which holds that knowledge of the nature of God etc. cannot be attained at all). Hence philosophy deals with criticism of knowledge or Epistemology, which is the foundation of the problems of philosophy *i.e.* on which the other three divisions forming the superstructure are raised.

The formal and material disciplines of philosophy.

The division of special problems of philosophy are called by Marvin the "Disciplines of philosophy." The Theory of Knowledge is called general or *formal* discipline; and the *material* or special disciplines are those of (1) metaphysics or the science of reality, (2) Religion, (3) Morality or Ethics and (4) Art or Æsthetics.

Classifiion of knowledge science and philosophy.

We have below a tabular view of knowledge and the relation between the different divisions of science and philosophy:



Nature of the epistemological problem.

Thus we shall first deal with the epistemological problem or theory of knowledge, *i.e.* we shall "inquire into the origin and nature of knowledge in order to understand the conditions on which the possibility of knowing things depends, and how much it is possible to know about them,—what things are knowable, and what the limits are beyond which knowledge cannot go." It is called *formal discipline*, because it tries to show us the nature of knowledge, irrespective of its *matter* or content which may vary; it studies judgment or thought, whether of metaphysics, religion, science or morality it studies knowledge as such, or the formal nature of knowledge.

Meaning of formal discipline.

CHAPTER III

THE CATEGORIES OF PHILOSOPHY.

Meaning of the categories of Philosophy.

The categories of philosophy are those elementary and fundamental ideas, which we must necessarily make use of, in dealing with the problems of mind, nature of God; cf. 'the categories of the understanding' in psychology. These are not only necessary forms of our thinking (logically necessary) but are also considered as corresponding to necessary forms and relations of things themselves (metaphysically necessary). They are called categories or predicates because we necessarily affirm them of all things, and without which we can have no knowledge of the things of the world.

They are (1) Substance.

These are (1) *substance* or that permanent reality which remains the same throughout the endless changes happening in nature and mind. It is a question of philosophy

whether there is only one substance (*monism*) or two substances (*dualism*). one more than two (*pluralism*). Again the substance or substances may be either mental (*idealism* or *spiritualism*) or material (*materialism*); or again mind and matter may be only two aspects of the same thing parallel to each other (*Spinoza's parallelism*). Thus monism, dualism and parallelism (including idealism, materialism and parallelism) are the possible hypothesis with regard to the substance of mind and matter.

Different Theories of the substance.

(2) *Causality*: The changes in the world may be considered as being due to or caused by some anticedent events, and as being themselves the causes of their succeeding events.

(2) Causality.

(3) *Evolution*: *i.e.* thinking of the world as a process or a complex system of changes giving rise to admirably co-ordinated systems of self-regulating changes, exhibited in the development of plants, animals and conscious reason in man. Evolution or development means "an unfolding and making explicit of what was contained implicitly (as if folded up) in primitive substance" (Stephen) [cf. Mental development in psychology].

(3) Evolution.

(4) *End*: There must be some end or result of the process of evolution *i.e.* "The one far-off Divine Event, to which the whole creation moves" (Tennyson). The question about the end involves the question about the origin of the universe, and will, therefore, lead to a discussion of *theism* (God created and controls the world) *atheism* (there is no creator of the world) and *pantheism* (all is God and God is all, God and the world are both co-extensive).

(4) End

(5) *Worth* or the ethical problem about the true place, purpose and function of man as a factor of the world-series.

(5) Worth

CHAPTER IV

Relation of Philosophy to Epistemology Science and Ontology.

I. Epistemology or theory of knowledge is an enquiry into the conditions and possibility of knowledge and thereby into the range and limits of genuine or correct knowledge, and therefore into the foundations on which both science and philosophy are built.

I Relation of philosophy to Epistemology.

We have seen that philosophy is closely related to Epistemology, because philosophy attempts at a *knowledge* of the universe as a whole and must therefore take cognisance of the theory of knowledge itself, its limits, conditions and possibilities. Philosophy is thus dependent on Epistemology.

II. Relation of philosophy to science

II. *Science.*—We have seen that science deals with the phenomena of a *particular* department of the universe, and its methods are observation, experiment and induction (or *empirical i.e.*, experiential). Scientific knowledge is connected and formulated knowledge, science gives us general laws and principles but (*a*) its scope can be only phenomena of (*b*) a particular department of the universe, and (*c*) the method of science is sense. Observation and experiment *i. e*, experience.

Characteristics of science.

But philosophy deals with (1) both phenomena and noumena (2) of the universe as a whole and its methods comprise both experience and reason.

and philosophy.

III. Ontology or the study of of real being or beings (*onta* = real things) is the same as metaphysics and studies things, not as they appear to our sensations and feelings, but as they are in themselves, outside and independent of our minds.

III Relation of philosophy to ontology or metaphysics.

The elements in the study of ontology or metaphysics are: (1) its scope is *noumenon* or reality (whether one, two or more—*i. e.* monism, dualism or pluralism) and (2) its method is rational and not empirical (*i. e.* drawn from internal reason, and not from outward experience), thus metaphysics takes the help of the deductive or reflective method.

Scope and method of ontology

Philosophy, however, combines the results of both Science and Metaphysics—it is both empirical and ontological, accepting the results of the empirical sciences and supplementing them with the results of metaphysics or ontology; and thus philosophy combines them to form a higher understanding and synthesis of the

Philosophy syntheses the results of both Science and Metaphysics

results gained by experience and reason, induction and deduction, of science and ontology respectively—the philosopher being justly called "The world's peacemaker" (Marvin). The aim of every science is to gain new information about the facts of the world in which we live, *i. e.* in one word, progress ; and the chief factor of progress is organization, which means consistency and harmony. But "the harmonizer is, as such the philosopher" (Marvin), who is predominantly a great thinker, trained to reflection.

To be continued.

S. DAYAL.

[Note :—In my last article, *The Carolines and the Metaphysical Poetry*, insert the date "1630-1660," just below the heading.]

Milton and the 'Commonwealth'

PROSE.

1625—1660.

A word of explanation may be called for, regarding the fact of my mixing Milton with the prose writings of the 'Commonwealth.' Though chronologically Milton belongs to the present period, yet he is as far from the nature of the age as the Elizabethans are. In essence, he is more an Elizabethan than anything else. Milton may be classed among the earlier 'Elizabethan' writers ; and for this reason, many writers take him along with the Elizabethans, though chronology may stand against his being taken so. In the present instance, however, the chronology is followed and Milton is treated of along with the 'Commonwealth' writers, though it must be clearly understood that the eyeless savant is far apart from his contemporaries in the literary history.

Milton's* literary career is clearly resolved into three periods. The first period, ranging roughly between 1623 and 1640, saw the birth of his longer minor poems, *Nativity Ode, Comus, Lycidas, L' Allegro, Il Pensoroso*, and the sonnets. The second period, which covers the space between 1640 and 1660 consists of his prose writings, among which is *Areopagitica*, the third period which proceeds down to the end is occupied by the great epic *Paradise Lost*, as well as his two other great works, *Paradise Regained* and *Samson Agonistes*.

The poems of the early period are marked by beauty of technique. The subjects, too, are fascinating and so is the manner of treatment. The two sister and antithetic poems—'The Cheerful' and 'The Thoughtful' are novelties in English literature. "In Comus," says Mr. Wyatt, 'Milton produced what is not only incomparably the finest masque ever written, but also among the greatest of his own works." *Lycidas* is a beautiful elegy written in memory of Milton's College friend, Edward King, who was drowned in the sea. It is written in pastoral form a shepherd mourning the death of a fellow-shepherd and Milton utilizes the occasion by venting his just indignation against the degenerate clergy and the corruptions of the church. Though inferior in point of intellect, ecstasy, and philosophic speculation to its successors, 'Adonais,' and 'In Memoriam,' *Lycidas* is able to hold its own among the first rate elegies of England. In his sonnets, Milton was a strict and consistent follower of the Petrarchan model.

The second or the prose period of Milton is a sharp transition from the earlier period. In his prose works, the dominating idea is 'liberty.' Impressed by a sense of wrong and injustice, this spirit came uppermost in his mind and he began flourishing his pen in a most defiant manner. There is no denying the fact that he was oftener carried away by passion and personal spleen than by reason, and that he often indulged in 'Billingsgale'—a besetting drawback in the polemics of the time. Milton himself has divided his prose writings into three classes "those dealing (*a*) with religious liberty, as in church government controversy of 1641, (*b*) with domestic liberty as in the divorce pamphlets the 'Tractate on Education' and the 'Areopagitica,' (*c*) with political liberty as in the 'Tenure of Kings and Magistrates."

The third period is that of the great epic *Paradise Lost*. If Milton had not written anything else, still his fame would have been as extensive as it is now. Indeed, *Paradise Lost* is the work of Milton. In point of grandeur, sublimity, and nobleness, it is almost unapproachable. The object of the great epic is set forth in the beginning of the first book,—that the poet may.

* 1608-1674.

"Assert eternal providence
And justify the ways of God to men."

His other works belonging to this period, are *Paradise Regained*, which is far inferior in grandeur to *Paradise Post*, and *Samson Agonistes*, his last work, and "the last word of the music of the Elezabethan drama."*

Of the general estimate of Milton's work a competent critic has the following :—

"To the greatness of the artist Milton joined the majesty of a clear and lofty character. His poetic style was as stately as his character, and proceeded from it. Living at a time when criticism began to purify the verse of England, and being himself well acquainted with the great classical models his work is seldom weakened by the false conceits and the intemperance of the Elizabethan writers, and yet is as imaginative as theirs, and as various. He has not their naturalness, nor all their intensity, but he has a larger grace, a lovelier colour, a closer eye for nature, a more finished art, and a sublime dignity they did not possess. All the kinds of poetry which he touched he touched with the ease of great strength, and with so much energy, that they became new in his hands. He put a fresh life into the masque, the sonnet, the elegy, the descriptive lyric, the song, the choral drama, and he created the epic in England. The lighter love poem he never wrote, and we are grateful that he kept his coarse satirical power apart from his poetry. In some points he was untrue to his descent from the Elizabethans for he had no dramatic faculty, and he had no humour. He summed up in himself the learned and artistic influences of the English Renaissance, and handed them on to us. His taste was as severe, his verse as polished, his method and language as strict as those of the school of Dryden and Pope that grew up when he was old. A literary past and present thus met in him, nor did he fail, like all the greatest men, to make a cast in the future. He established the poetry of pure natural description. Lastly, he did not represent in any way the Enland that followed the Stuarts, but he did represent Puritan England, and the whole spirit of Puritanism from its cradle to the grave."

Saintsbury says : "During the second and the third quarters of the seventeenth century, or (to take literary rather than chronological dates) between the death of Bacon and the publication of *Absalom and Achitophel*, there existed in England a quintet of man of letters of such extraordinary power and individuality, that it may be doubted whether other period of our own literature, except perhaps the age of Pericles, can match them."

Milton was 'double first, in prose and verse. But the literature of the 'Commonwealth' period is more prosaic than poetic; and the "quintet of men of letters" referred to by Saintsbury, are all prose writers. Another characteristic of these writers is the theological tone breathing through them. The enthusiastic bursts of eloquence exhibited by the supporters of the Anglican church, as Taylor and Barrow, were answered with as much enthusiasm hy the sectaries and the more violent Dissenters.

Jeremy Taylor,[1] Bishop of Down and Connor, wus the greatest prose-writer of this age. He underwent imprisonment more than once, and the greater part of this literary out-put owe their conception within the four walls of his prison-house. Taylor wrote volumes; but his chief writings are *Rule and Exercises of Holy Living*, *Rule and Exercises of Holy Dying* and *the Great Exemplar*. "In all his works," says Mr. W.H. Low, "the most striking literary qualities are the musical cadence of the sentences, wealth of illustration and brilliant imagery, and beautiful pathos."

Thomas Hobbes,[2] the famous author of *Leviathan* is a philosophical writer of the age. His political and moral essays are written in forcible, direct, vigorous and terse English prose. His chief work, *Leviathan* is a treatise supporting the system of monarchical government. The tratment has been extended much too far, and the author has almost committed himself in favour of despotism. Besides *Leviathan*, which came into existence in 1651, Hobbes wrote many works of importance, *e.g.*, *De Cive*, printed privately in 1642 and published in 1647, his English essay *On Human Nature*, which appeared in 1650, *Letter of Liberty and Necessity* (1654) and Behemoth, published in 1679.

* Stopford Brooke.

1. 1613-1667.
2. 1588-1679.

Sir Thomas Browne[3], the author of *Religio Medici* was a medical practitioner at Norwich. This work was "the exposition of the tolerant, poetic Christianity of a student of science and a lover of hermony in nature, art and life.*" Besides *Religio Medici*, he wrote another very good work *Hydriotaphia* or Urn-burial. Browne's style is vigorous brilliant and flowing. Fired as he was with an intense earnestness, his writings are impressive to a high degree. The *Complete Angler*, published in 1653, has certainly succeeded in securing for itself a place among the classics of England. The author of this was zaac Walton,[4] who also wrote the *Lives* of Donne, Wotton. Hooker, Herbert and Bishop Sanderson.

Of the theological writers of this age other than Taylor, mention may be made of William Chillingworth[1], the author of the *Religion of Protestants a Safe Way to Salvation*, published in 1637, of Richard Baxter[2], a non-conformist, whose chief work is *The Saint's Everlasting Rest*, published in 1650. This work became a household book in England. Among his other works, *A ball to the Unconverted* (1657) is well known. Bishop Wilkins[3], Bishop Sanderson[4], and Archbishop Sancroft contributed not a little to the theological literature of the age.

Others were, Thomas Fuller[6], the author of *the history of the Holy War* (1639); John Selden[7] who wrote *Titles of Honour* (1614); and *History of Tithes* (1618) and James Howell[8], whose works embrace various lines.

AJAX.

3. 1605-1682.
*. W. H. Low.
4. 1653-1683.
1. 1602—1644.
2. 1615—1691.
3. 1614—1672.
4. 1587—1663.
5. 1616—1693.
6. 1608—1661.
7. 1584—1654.
8. 1594—1666.

On a Method of directly verifying the Law of Inverse Squares in the Case of Magnetic Forces.

Draw a magnetic meridian on a table along its length. Place a small freely suspended magnet on the meridian, say, at its north end, and count the number of oscillations of the magnet under the action of the earth's magnetic force in unit time, say, 5 minutes. Let n be the number, and if H be the earth's force, then,

$$H \propto n^2 \quad \ldots \quad \ldots \quad \ldots \quad (1)$$

Next bring a bar magnet of length l and place it on the magnetic meridian drawn on the table in end-on position, its north pole facing the south pole of the suspended magnet and placed at a distance l from it, its south pole consequently being placed at a distance $2l$ from the suspended magnet. Count the number of oscillations in unit time which we have chosen to be 5 minutes. Next keeping the south pole of the bar magnet at the same place turn it over so that its north pole is now placed at a distance $3l$ from the suspended magnet and count the number of oscillations of the latter. Next keeping the north pole at the same place turn the magnet over so that its south pole is now placed at a distance $4l$ and count the number of oscillations of the suspended magnet. Repeat the process counting the number of oscillations each time until it becomes equal to that obtained under the earth's force alone.

Let $n_1, n_2, n_3, \ldots\ldots, n_r$ be the number of oscillations for the 1st, 2nd, 3rd,....., rth positions, successively of the bar magnet, n_r being ultimately equal to n. Let the symbols F_1^n, F_3^n, F_5^n,....., $F^n{}_{r+1}$ represent respectively the forces acting on the suspended magnet due to the north pole of the bar magnet placed successively at distances l, $3l$, $5l$,..., $(r+1)l$ from the suspended magnet. Let the symbols $F^s{}_2$, $F^s{}_4$, F_6,.....,F^s_r respectively represent, likewise, the forces due to the south pole placed at $2l$, $4l$, $6l$,...,rl distances from the suspended magnet.

Thus we have, for the successive positions of the bar magnet, the following relations :—

For the 1st, $H + F_1^n - F_2^s \propto n_1^2$ ... ... (2)

„ 2nd, $H - F_2^s + F_3^n \propto n_2^2$ ... ... (3)

„ 3rd, $H + F_3^n - F_4^s \propto n_3^2$ ... ... (4)

„ 4th, $H - F_4^s + F_5^n \propto n_4^2$ (5)

.....

„ rth, $H - F_r^s + F_{r+1}^n \propto n_r^2$ $(r+1)$

r being even

Subtracting (1) from (2) (4) (6), .. (r) successively, and (3), (5), (7) .. $(r+1)$ from (1) successively, we get the following relations —

$$F_1^n - F_2^s \propto n_1^2 - n^2$$

$$F_2^s - F_3^n \propto n^2 - n_2^2$$

$$F_3^n - F_4^s \propto n_3^2 - n^2$$

$$F_4^s - F_5^n \propto n^2 - n_4^2$$

.....

$$F_{r-1}^n - F_r^s \propto n_{r-1}^2 - n^2$$

$$F_r^s - F_{r+1}^n \propto n^2 - n_r^2$$

Summing up the above relations first beginning from the 1st, then from the 2nd, next from the 3rd, and so on, successively, we get

$$F_1^n - F_{r+1}^n \propto n_1^2 - n_2^2 + n_3^2 - n_4^2 + \ldots + n_{r-1}^2 - n_r^2$$

$$F_2^s - F_{r+1}^n \propto -n_2^2 + n_3^2 - n_4^2 + \ldots + n_{r-1}^2 - n_r^2$$

$$F_3^n - F_{r+1}^n \propto n_3^2 - n_4^2 + \ldots + n_{r-1}^2 - n_r^2$$

$$F_4^s - F_{r+1}^n \propto -n_4^2 + \ldots + n_{r-1}^2 - n_r^2$$

and so on

Since F_{r+1}^n which occurs in the left hand sides of all the relations deduced above is very small when r is large the left hand sides become practically equal to $F_1^n, F_2^s, F_3^n, F_4^s$, and so on respectively, thus,

$$F_1^n \propto n_1^2 - n_2^2 + n_3^2 - n_4^2 + \ldots + n_{r-1}^2 - n_r^2$$

$$F_2^s \propto -n_2^2 + n_3^2 - n_4^2 + \ldots + n_{r-1}^2 - n_r^2$$

$$F_3^n \propto n_3^2 - n_4^2 + \ldots + n_{r-1}^2 - n_r^2$$

$$F_4^s \propto -n_4^2 + n_5^2 - n_6^2 + \ldots + n_{r-1}^2 - n_r^2$$

$$F_5^n \propto n_5^2 - n_6^2 + \ldots + n_{r-1}^2 - n_r^2$$

.. ..

Now if we take the alternate ones beginning from the first the law of inverse squares with reference to the north pole of the bar magnet is proved, the rest go to prove the law for the south pole

The advantage of this over the ordinary method is, that by this the action due to one of the poles of a magnet, as well as, that of the earth's magnetic force is totally eliminated and so the effect of the other pole alone is obtained

J RAY

REVIEWS
AND MINOR NOTICES.

Manu-Samhita Chapter II.

EDITED BY RAMLAL VEDANTATIRTHA VIDYARATNA, M.A., AND PUBLISHED BY MESSRS BHATTACHARYA AND SONS, 65, COLLEGE STREET, CALCUTTA, PRICE RE. 1-4 ANNAS.

Professor Ramlal Kanjilal, M.A., Vedantatirtha-Vidyaratna, Professor of Sanskrit in the Srinagar College, Kashmere, has edited the Second Chapter of the Mânava-Dharma-Sâshtra, with Kulluka's gloss thereon (called the Manvartha muktâvali) in a very creditable manner. I would unhesitatingly recommend this edition to the B.A., Students of the Calcutta and other Uuiversities for the following reasons:—

(1) the correctness of the text of Manu,
(2) the correctness of the text of Kulluka,
(3) the short but comprehensive character of the Introduction,
(4) the terseness and appropriateness of the Editor's Notes.
(5) the utility of the Index and the two appendices.

(1) *As regards the text of Manu.* It is rather late in the day to think of settling the text of Manu afresh after the labours of Professor Jolly as embodied in his spendid edition of the Mânava-Dharma-Sâstra in Trubner's Oriental Series. But Jolly's Manu is not only unknown to our ordinary students, but it seems not to have been consulted even by the learned professor Bidhubhusan Goswami is his edition of the present chapter of Manu. Thus Professor Kanjilal has been able to give correct readings of the text itself in at least six different verses where Professor Goswami had to content himself with the worse readings (*Vide* verses, 74, 114, 148, 192, 246, 249) that are found in the Bangabasi and other cheap editions.

(2) *As regards Kulluka's gloss.* This also forms a part of the B.A., curriculum in Calcutta. So it requires to be edited with all the care that is generally bestowed upon original works. The improvements effected in the text of the Manvartha-muktâvali in Professor Kanjilal's edition (as compared with Professor Goswami's edition and its prototype—the Bangabasi edition) are too numerous to be mentioned in detail. Decided improvements however, will be noticed in the glosses on verses 1, 2, 6, 10, 25, 35, 39, 40, 41, 47-8, 73, 74, 84, 85, 93, 94, 95, 104, 106, 111, 115, 122, 125, 126, 152 153, 155, 161, 172 (in this gloss Kanjilal's text is worse than Goswami's in one place), 176, 186, 199, 200, 219, 220, 230, 231, 237, 238, 246, 249. None of these improvements rests on mere conjecture, every single improvement being found in some Manuscript or other.

One special merit of Kanjilal's book is that in it almost all the quotations have been traced to their sources. This was especially necessary as numerous mistakes had crept into the text of these excerpts. Thus in the gloss on Sloka 238, we read as follows, in all the other editions:—

तथा मौचमेवोपक्रम्य मौचधर्म्मे:प्राप्यश्चानं ब्राह्मणात् क्षत्रियात् वैश्यात् शूद्रात् अपि नीचादपीक्षं श्रद्दातश्यं श्रद्दधानेन नित्यं न श्रद्दितं प्रति जन्मसत्यु विशेषता।

Apparently it had never struck any of the previous editors that "मौचधर्म्मे" here refers to the celebrated section of that name in the Sântiparva of the Mahabharata, for in that case, it could have easily been seen that they were here printing not prose, but a verse. The emended text as found in Professor Kanjilal's edition runs as follows:—

तथा मौचमेव उपक्रम्य मौचधर्म्मे—

"प्राप्य ज्ञानं ब्राह्मणात् क्षत्रियाद् वा
वैश्यात् शूद्रादपि नीचादभीक्ष्णम्।
श्रद्दातश्यं श्रद्दधानेन नित्यम्
न श्रद्दितं जन्मसत्यू विशेषताम्॥"

महाभारत, १२। ३१८। ८८।

I quote a part of Kanjilal's Notes on this portion of the text. "The verse "प्राप्यज्ञानं" &c., is hopelessly corrupt in all the printed editions. It occurs in the Mahabharata, Santiprava, 318 chapter in the Bangabasi edition and chapter 323 in the

Kumbakonam edition (Nirnaysagar Press)." It required time and trouble to hunt up such a Sloka in the huge Mokshadharma, but Professor Kanjilal spared him neither to make his work thoroughly reliable and useful.

As regards the Introduction. It is full and concise. It contains all that the ordinary student requires to know. Professor Kanjilal has honestly observed in the preface that there is not much originality in the Introduction. Says he: "The student is strongly advised to read the excellent Introduction to Professor Buhler's 'Laws of Manu Vol XXV, sacred Books of the East, and Professor Jolly's Tagore Law Lectures 1883 (Lectures 1-3). The short Introduction that follows, has been mainly drawn from these sources." There is only one little suggestion of mine which Professor Kanjilal has kindly adopted, on which I require further light from the learned professors of Sanskrit. It is this, that "the word Vridha in this connection [in बृहमनु and बृहन्मनु&..] means 'enlarged' and not 'old' as is generally supposed. Hence the same sloka is sometimes attributed to Vriddha and sometimes of Vrihat Manu." (Introduction page 3). Is this hypothesis correct?

As regards the Notes. They have been very judiciously selected, and they are entirely free from the mistakes which too often find a place in the ordinary university editions of Sanskrit texts. The compilation of these notes shows an amount of learning and research, such as is seldom met with in works of this class. The compiler has consulted and quoted from 36 different books, including such learned books as the सामवेद, निरुक्त, आपस्तम्ब, गौभिल, शबरभाष्य, अपरार्क, श्लोकवार्त्तिक, न्यायवार्त्तिक, खेवार्त्तिक, तार्किक रक्षा, Holland's Jurisprudence &c., &c.

As remarked by a European Professor, it is the best got up College Sanskrit text that appeared in India within the last decade.

VANAMALI CHAKRAVARTI, M.A.,
(VEDANTATIRTHA),
Professor, Gauhati.

Messrs. GANESH & Co's Publications.

We are in receipt of the excellent publications of Messrs. Ganesh & Co. of Madras. *The Indian Nation Builders* Vol. III. contains the biographies and speeches of twelve eminent Indians—a valuable contribution to the literature of Indian Renaissance, and a miracle of cheapness. *Messages of Uplift for India by Saint Nihal Sing* contains the essays of Saint Nihal Sing in a collected form; "they contain" as remarked by the late Hon'ble Mr. V. Krishnaswamy Aiyar "the impression of an ardent Indian from many foreign lands through which he travelled with observant eyes"; the get up and printing are all that could be desired. *The Speeches of the Hon'ble Mr. M. M. Malaviya*—an exhaustive collection of the speeches of the Hon'ble Pandit from 1886 up to date together with his life-sketch. *Sister Nivedita and Her writings* is a comprehensive collection of the select writings of the late Sister Nivedita with an introduction by Mr. A. J. Fraser Blair, Editor of the Empire. *Swami Ram Tirath His Life and Teachings* Vol. I.; Swami Ram Tirath M. A. of the Punjab the erudite scholar and eloquent *Sanyasin* who lectured in America, Egypt and Japan and the well-known humanitarian, who sacrified his life on the altar of his country's service at the early age of thirty three, was a direct descendant of Tulsi Das the famous author of the Hindi Ramayana. Of his remarkable essays 'Criticism and Universal Love,' 'The Problem of India,' 'The Secret of Success,' 'The Spirit of Yajna' are specially noteworthy.

UNIVERSITY QUESTIONS

ALLAHABAD UNIVERSITY,

B. A. EXAMINATION, 1912.

ENGLISH.—General Section.

FIRST PAPER. (Time—Three Hours.)

A.

I was exceedingly well beaten by my excellent friend Dr. R. of Nottingham in an examination for honours in anatomy and physiology. *I accepted my defeat with the most comfortable assurance* that I had thoroughly well earned it. But, gentlemen, the competitor having been a worthy one, and the examination a fair one, I cannot say that I found in that circumstance anything very discouraging. I said to myself 'Never mind *; what's the next thing to be done?' And I found *that policy of 'never minding' * and going on to the next thing to be done,* to be the most important of all policies in the conduct of practical life. It does not matter how many tumbles you have in this life, so long as you do not get dirty when you tumble; it is only * the people who have to stop to be washed and made clean, * who must necessarily lose the race. And I can assure you that there is the greatest practical benefit in making a few failures early in life. You learn that which is of inestimable importance—that there * are a great many people in the world who are just as clever as you are. You learn to put your trust, by and by, in an economy and frugality of the exercise of your powers, both moral and intellectual; and you very soon find out, if you have not found it out before, that patience and tenacity of purpose are worth more * than twice their weight of cleverness. In fact, if I were to go on discoursing on this subject, I should become almost eloquent in praise of non-success; but, lest so doing should seem, in any way, *to wither well-earned laurels,* I will turn from that topic.

(*a*) What do you learn from this passage of the use of failure?

(*b*) Explain in simple language, free from metaphor, all that is implied in the sentence beginning 'It does not matter how many tumbles you have in life...'

(*c*) Explain the passages in italics.

(*d*) Parse the words followed by an asterisk.

B.

Lord Kelvin.

Lord Kelvin, whom the whole Empire mourns, was a pre-eminently great man of science, *whose intellect eclipsed that of his scientific contemporaries,* and whom the judgement of posterity may class with his greatest predecessors in physical research and speculation. The wisdom of the decision to bury him in Westminster Abbey will not be disputed by any one. The simplest and truest thing to say about Kelvin is that he had in an incomparable degree the power to apply abstruse theory to the most ordinary uses. He dreamed of the composition of matter in terms of supreme subtlety that had to be invented for his purpose, yet he set himself with no less zest *to overcome the mechanical worries* that beset the humble householder and the unintelligent plumber. He designed a water-tap which can be turned off without communicating a shock to the pipe; and other small domestic appliances in British homes remind us of *his contempt for knowledge that bears no fruits.* The range of his inquiries was astonishing; he busied himself with so many branches of science that one might be tempted to think that he was superficial in some if *the material applications of his genius were not present to confound us.* Nearly everything that he invented was a perfect fulfilment of what he set out to do. One does not hear that his mariner's compass, for instance, or his deep-sea sounding apparatus, or his instrument for recording and predicting the tides needs improvement, or even that his non-shock tap will presently be perfected by some one else *along the same lines.* He always saw, as his biographer in the *Times* points out, how far the lines led, and *he invariably went to the end of the*

journey. Besides having the power to apply theory, he had the instinct to make the application *commercially practicable*. Thus one could always see in his case a threefold process at work : brilliant theory, application of theory, and the businesslike capacity to secure that the invention should be of some use to '*the man in the street*.' We know of no one in whom these three qualities were more manifestly mingled than in Lord Kelvin. He may have regarded Stokes as his master in the domain of pure mathematics, but, *take him for all in all*, in the world of science he had no master. 'All science is one,' he used to say, and really his accomplishments force one to admit that he proved the truth of that *spacious pronouncement*.

(*a*) The writer speaks of 'a threefold process at work' in the case of Lord Kelvin. What examples does he cite of each process ?

(*b*) Explain the expressions in italics.

(*c*) Give a clause-analysis of the sentence beginning 'The range of his inquiries...'

ENGLISH.—General Section.

SECOND PAPER.

Write an Essay on *one* of the following subjects :—

(*a*) ' The best poetry is that which calls upon us to rise to it, not that which writes down to us.'

(*b*) The meaning and value of experiment in Science as illustrated by some particular instance described.

(*c*) 'All knowledge is good : but it is to be recollected that, in order to know a little well, one must be content to be ignorant of a great deal.'

ENGLISH.—Special Section,

FIRST PAPER.—PROSE.

[*Only six questions to be attempted, of which one at least must be taken from each of the* SECTIONS A. B. C.]

Section A.

1. (*a*) Give a brief account of the actual composition of *Paradise Lost* and its acceptance by the public.

Or,

(*b*) Briefly discuss the acceptance by Milton of a post under Cromwell's Government.

2. (*a*) Explain *two* of the following statements and show how they are justified in the text :—

(i) Yet even on the score of style Milton's prose is subject to serious deductions.

(ii) An appreciation of Milton is the last reward of consummated scholarship.

(iii) The subject of the Fall of Man was not so much Milton's choice as his necessity.

(*b*) Explain *two* of the following statements, and illustrate them by reference to the facts :—

(i) He had exchanged the contemplative leisure of Horton for a busy life in which no hour but had its calls.

(ii) He cultivated not letters but himself, and sought to enter into possession of his own mental kingdom.

(iii) When one with the sensibility of a poet throws himself into the excitements of a struggle, he is certain to lose his balance.

3. Make full explanatory notes upon *three* of the following passages :—

(*a*) A sanguine universality of benevolence pervated that generation of ardent souls akin only in their common anticipation of an unknown Utopia.

(*b*) The function of the poet is like those of the prophet in the old dispensation—not to invent but to utter.

(*c*) It was impossible for Milton to handle the dry bones of a divinity compendium without stirring them into life.

(*d*) Milton had barely time to spell one line in the book of wisdom before, like the wizard's volume in romance, it was closed against him for ever.

Section B.

4. (*a*) Illustrate from the *Essays* Stevenson's love of paradox, his courage, his youthfulness of spirit. What are the special aspects of the walking tour that appeal to him ?

Or

(*b*) Explain fully *three* of the following passages, showing how they are illustrated and developed in the text :—

(i) People struck with admiration cry aloud about the power of imagination in the young. Indeed, there may be two words to that. It is in some ways but a pedestrain fancy that the child exhibits.

(ii) To forego all the issues of living in a parlour with a regulated temperature—as if that were not to die in one's own lifetime and without even the sad immunities of death!

(iii) The time would fail me if I were to recite all the big names in history whose exploits are perfectly irrational or even shocking to the business mind. The incongruity is speaking and, I imagine, must engender amongst the mediocrities a very peculiar attitude towards the nobler and showier sides of life.

(iv) And, mark you, undemonstrative men would have spoiled the situation. The finest action is all the better for a bit of purple.

5. Give the context of *three* of the following passages, and make full explanatory notes upon them :—

(*a*) The body is a house of many windows; there we all sit, showing ourselves and crying on the passers-by to come and love us. But this fellow has filled his windows with opaque glass elegantly coloured.

(*b*) It is admitted that the presence of people who refuse to enter in the great handicap race for sixpenny pieces is at once an insult and a disenchantment for those who do.

(*c*) And what, pathologically looked at, is the human body with all its organs but a mere bagful of petards? The least of these is as dangerous to the whole economy as the ship's powder-magazine to the ship.

(*d*) To certain smoke-dried spirits matter and motion and elastic aethers, and the hypothesis of this or that other spectacled professor, tell a speaking story; but for youth and all docile and congenial minds Pan is not dead, but of all the classic hierarchy alone survives in triumph.

Section C.

6. (*a*) Trace the successive changes in the village opinion of Silas Marner from the time he first came to Raveloe, showing how they are to be accounted for.

Or

(*b*) Enumerate and briefly characterize the various types of English country life depicted by George Eliot in *Silas Marner*.

7. (*a*) Explain *two* of the following passages in connexion with the context, showing how they are characteristic of the speakers :—

(i) Would you have us going about as if we were no kin to one another—us that have got no mother and not another sister in the world? I'd do what was right if I dressed in a gown dyed with cheese-clouring.

(ii) And so, Master Marner, as I was saying—for there's windings i' things as they may carry you to the fur end o' the prayer-book afore you get back to'em—my advice is, as you keep up your sperrits

(iii) It's the will o'Them above as a many things should be dark to us; but there's some things as I've never felt i' the dark about, and they're mostly what comes i' the day's work.

(*b*) Explain the following passage in connexion with the context, and illustrate it fully from the story :—'But the unwept death which, to the general lot, seemed as trivial as the summer-shed leaf, was charged with the force of destiny to certain human lives that we know of, shaping their joys and sorrows even to the end.'

ENGLISH.—Special Section.

SECOND PAPER.—POETRY.

[*Only* six *questions in all to be attempted, amongst which must be included Questions* 1, 5, 7.]

Section A.

1. Give the context of, and explain the difficulties in the following passages :—

(*a*) O, no! the apprehension of the good
Gives but the greater feeling to the worse :
Fell sorrow's tooth doth never rankle more
Than when he bites, but lanceth not the sore.

(*b*) Thou sheer, immaculate, and silver fountain
From whence this stream through muddy passages
Hath held his current and defiled himself !

(*c*) Whilst you have fed upon my signories,
Dispark'd my parks and felled my forest woods,
From my own windows torn my household coat,
Razed out my impress, leaving me no sign,
Save men's opinions and my living blood,
To show the world I am a gentleman.

(*d*) If Hercules and Lichas play at dice
Which is the better man, the greater throw
May turn by fortune from the weaker hand :
So is Alcides beaten by his page.

(*e*) Out upon her ! Thou torturest me, Tubal ; it was my turquoise ; I had it of Leah when I was a bachelor : I would not have given it for a wilderness of monkeys.

(*f*) Look how the floor of heaven
Is thick inlaid with patines of bright gold :
There's not the smallest orb which thou behold'st
But in his motion like an angel sings,
Still quiring to the young-eyed cherubins ;
Such harmony is in immortal souls ;
But whilst this muddy vesture of decay
Doth grossly close it in, we cannot hear it.

2. 'Shakespeare has won sympathy for his characters by sheer humanity. Mark this trick of Shakespeare. In most of his great characters—King Lear, Shylock, Richard II—he employs it. All are redeemed by their humanity. After passing through the fiery furnace of their suffering, their despair, they reach the goal of our pity, of our sympathy.' Illustrate this in the case of Richard II and Shylock.

3. (*a*) Contrast the characters of Richard II and Bolingbroke, and show how the action of the play arises out of those characters.

(*b*) Illustrate from *The Merchant of Venice* Shakespeare's treatment of 'plot'.

4. Explain the following words and phrases :—vailing—a more swelling port—peize—scarfed bark—deface the bond—within his danger—the world is full of rubs—there the antic sits—attorneys are denied me—perspectives—to sue his livery—Jack o' the clock.

Section B

5 Explain, and give context of :—

(*a*) And every shepherd tells his tale
Under the hawthorn in the dale.

(*b*) Or whether thou, to our moist vows denied,
Sleep'st by the fable of Bellerus old,
Where the great vision of the guarded mount
Looks toward Namancos and Bayona's hold.

(*c*) Where I may oft outwatch the Bear,
With thrice great Hermes, or unsphere
The spirit of Plato, to unfold
What worlds, or what vast regions hold
The immortal mind that hath forsook
Her mansion in this fleshly nook.

(*d*) Then to come, in spite of sorrow,
And at my window bid good-morrow.

6. (*a*) Illustrate from *L' Allegro* and *Il Penseroso* Milton's ideal of a happy life. Compare it with Wordsworth's in *The Happy Warrior*.

(*b*) What is meant by 'pastoral' poetry ? Illustrate its characteristics from *Lycidas*, *L'Allegro*, and *Il Penseroso*.

Section C.

7. Explain, giving reference to context, the allusions and ideas contained in the followlng passages :—

(*a*) Could father Adam open his eyes
And see this sight beneath the skies,
He'd wish to close them again.

(*b*) No motion has she now, no force ;
She neither hears nor sees ;
Rolled round in earth's diurnal course,
With rocks and stones and trees.

(*c*) Not for this
Faint I, nor mourn nor murmur ; other gifts
Have followed ; for such loss, I would believe
Abundant recompense.

(*d*) Myself will to my darling be
Both law and impulse.

8. (*a*) What does Wordsworth say himself concerning the object of his poetry ?

(*b*) What is Wordsworth's meaning when he calls himself a 'Worshipper of Nature' ?

SCIENCE NOTES AND INTERESTING ITEMS.

Hybridizing Wheat

Mr. Howard, the Imperial Botanist, whose effort at hybridizing wheat has been attended with splendid success, in endeavouring to work out a scheme at Pusa for growing indigo in conjunction with wheat, by which both crops might benefit.

Instructor in Waiting

Having advertised a second time for a waiter to undertake, a salary of £200 a year, the duties of professional instructor in waiting at the new London County Council School for Waiters, the Education Committee of the London County Council was able to secure the "right man.' There were 52 applications, and the committee appointed Mr. A. Stark.

A literary Treasure

Bunyan's copy of "Foxe's Book of Martyr," has been sold to Mr. Pierpont Morgan for £2,000 sterling.

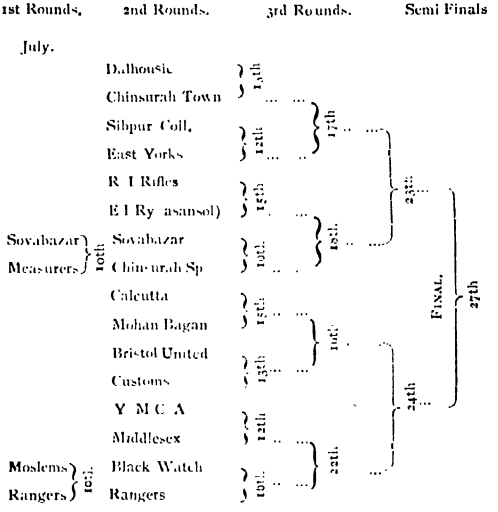
Indian Students in England

Over 1000 Indian students are said to be studying in London, and Some 600 in other parts of England. Every parent should see that his son has the government certificate of birth, etc., which we print for those who are preparing to study outside India. (*Vide page* 193.)



At a meeting of the Indian Football Association of Calcutta ties were drawn up for the Challenge Shield Competition. Below we give the list of clubs that will play, together with results corrected up to the 13th instant :—

I. F. A. CHALLENGE SHIELD COMPETITION TIES 1912.



N.B.—The Measurers were disqualified by the I. F. A. and the Moslems Scratched themselves.

CUTTINGS.

Diet in Schools.

The Conference on Diet in Public, Secondary, and Private Schools, which was held on May 13 at the Guildhall, had been carefully schemed and organizd by a Special Committee of the National Food Reform Association, to whose energetic Secretary, Mr. Charles Hecht, public thanks are due ; and though on many details, and, indeed, on some first principles, there was a wide divergence of opinion, yet if it only leads to some realization of the general conclusion prefigured by the Lord Mayor, himself a distinguished doctor, the Conference will not have met in vain. "The food" said Sir Thomas Crosby "should be ample, simple, varied, and well cooked , and the meal hours should be fixed and regular." How few even of our great public schools at present satisfy this simple requirement !

Mr. Malim, of Haileybury College, who occupied the chair at the first session, was apologetic for his order. The public schools, he

allowed, had not been immaculate in the past, but they were not so black as the newspapers painted them, and the presence of their representatives showed they were ready to learn, and their medical officers had been pioneers in food reforms. He pleaded the economic straits of school authorities, due to the rise in prices, and the difficulty of providing a variety of food for fivehundred boys. He denounced the growth of high living and finally he urged that boys preferred food procured or prepared by themselves. The last observation was echoed by several subsequent speakers; and the tuck shop, which at Haileybury has been authorized and, so to speak, sanctified to school uses, still found belated defenders. Contiguity may perhaps account for the qualified support of the Head Mistress of Christ's Hospital Girls' School, Hertford.

Papers were printed beforehand and taken as read. In their collected form they make a substantial pamphlet, which we advise our readers to procure for themselves.

Dr. Clement Dukes's views are too well known to need reproduction. Here he emphasizes the importance of amount. "The young are constantly stinted in one or other essential ingredient, such as sugar or meat, at the period of life when stinting is synonymous with stunting. Under "Monotony" he writes: "I have known complaining parents invited to partake of a meal and judge for themselves, and yet be unable to condemn, for the obvious reason that the quality of a single meal was not impugned but the obnoxious fact of an unvarying repitition." Extras of all sorts—hampers and tuck-shops—he will not away with.

Dr. Dukes does not add to his scientific virtues lucidity of expression. Witness the following sentence:—"After development is completed, the chicken being born, and when growth alone has to be sustained and promoted as exemplified in milk, which may be taken as the standard food for growth in contradistinction to development, the proportions are reversed—one-third of casein and two-thirds of crabohydrates"

(To be Continued.)

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5. The Hon'ble Mr. Justice Abdur Rahim, Madras High Court:—"Kuantal Kaumudi Taila stands a favourable comparison with the renowned hair-oils in the market."

6. Lala Lajpat Rai, The Renowned patriot of the Panjab:—"I have used Kuntal Kaumudi Taila. It is an excellent hair oil, finely scented and cooling."

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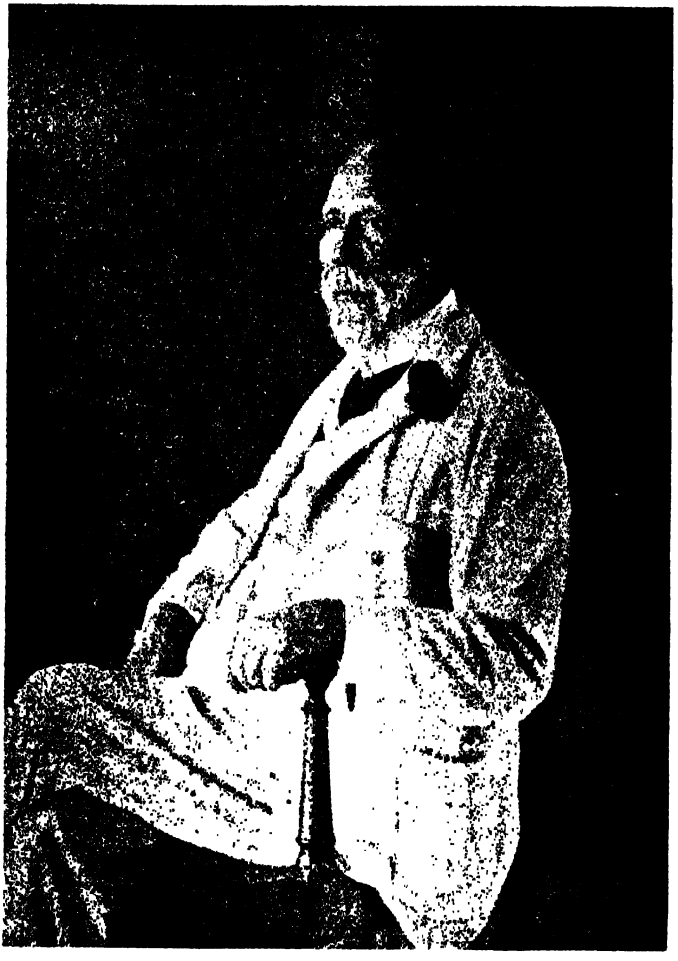
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THE FOUNDER OF THE UNIVERSITY COLLEGE OF SCIENCE CALCUTTA.



MR. TARAKNATH PALIT.

Mr. Taraknath Palit, the well-known Calcutta Barrister has made over to the Calcutta University more than seven lakhs of rupees (£46,666) for founding two chairs in Chemistry and Physics and for the establishment of a University Laboratory. "The University is thus in a position," as the Vice-Chancellor said, "to take the first step towards the foundation of a University College of Science and Technology."

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BUSINESS NOTICES.

All communications intended for the Editor should be addressed "To the Editor" and not to any member of staff by name.

All communications of a business nature (advertisements, changes of address, enrolment as a subscriber) should be addressed to the Manager, and all remittances should be made payable to him.

NOTICE TO CORRESPONDENTS.

Correspondents are requested to write legibly on one side of the paper while sending in MSS. for the press.

Communications intended for publication must be accompanied by the name and address of the writer not necessarily for publication but only to satisfy the Editor.

VOL. II **THE COLLEGIAN** No. 8

All-India Journal of Education

CALCUTTA, WEDNESDAY, JULY 31, 1912

A remarkable original contribution to Indian History

Professor Radhakumud Mukerjee's "History of Indian Shipping" has already been so widely appreciated by the Press (both European and Indian) and eminent authorities on the subject that it needs no introduction at our hands. A really forgotten chapter in Indian History as the work is, it is unique in its originality, the more so because "every authority on the subject has been ransacked" as Mr. Vincent A. Smith has very appositely remarked. The information collected from the original Sanskrit MSS. are especially novel and interesting.

His Excellency Lord Carmichael as a patron of Original Research

His Excellency Lord Carmichael has been graciously pleased to address the following autograph letter to Professor Radhakumud Mukerjee.

GOVERNMENT HOUSE,
Darjeeling.
22nd June, 1912.

DEAR SIR,

I have been very busy and was not able to read your book "A History of Indian Shipping and Maritime Activity from the earliest times," as soon after you kindly sent it to me as I should have liked to do: even now I have not been able to read it with care: I have only hurriedly skimmed through it. I hope however to refer to it from time to time, and I am sure I shall do so with advantage to myself. I am very grateful to you for sending it to me. I hope the reception which the book has met with from the public comes up to your expectations. Possibly a book like yours ought not to be expected to bring in much revenue to its author; but if that is so in this case, I can

only hope that you gain pleasure from the thought that in writing it you were doing a praiseworthy action; for I feel sure there must be many in India—as there certainly are outside of it—who recognise that any one who carefully investigates the original materials and puts them before his fellow-countrymen in a way to enable them to understand any branch of their history is doing good.

Yours truly,
(Sd.) CARMICHAEL.

Mr. Vincent A. Smith and the History of Indian Shipping

We cannot but reproduce in full Mr. Vincent A. Smith's Letter to Professor Radhakumud Mukerji written in appreciation of the author's book "The History of Indian Shipping." It is interesting to note the opinion of the greatest living authority on the subject.

116 Banbury Road,
Oxford 7-6-12.

My dear Sir,

You will I trust pardon my delay in acknowledging the receipt of your valued gift—the "*History of Indian Shipping.*" The book is so sumptuously produced and so full of novel matter that it is a possession which deserves to be treasured. The delay in writing has been due to the fact that I was for a time in bad health and had to lay aside all work not of an urgent nature.

The information collected from ancient Sanskrit works to a large extent in MS. is especially novel and valuable. The illustrations which you have brought together with so much labour are a history in themselves.

I note as particularly interesting the reference to the Indian compass.

If I live to bring out a third edition of my *Early History*, I shall not fail to make use of the new material supplied by you.

Every authority on the subject has been ransacked and I cannot suggest any omissions.

But I fear that there is little prospect of renewal of Indian shipbuilding on any considerable scale. The old wooden ships are gone for ever and the economic conditions of India are not favourable to the creation of the business of building steel steamers.

However that may be, you have done good service by placing on record in scholarly fashion a full account of India's old world achievements in the shipping line.

Again thanking you,
I remain,
Yours very truly,
VINCENT A. SMITH.

* * *

Death of Mr. B. M. Malabari.

The death of Mr. B. M. Malabari (Editor of Indian Spectator and East and West) at Simla on the 11th instant at the comparatively early age of 57 years removes a distinguished figure from the field of journalism and philanthropy in this country. Mr. Malabari contributed powerfully to the building upon the Bombay side of a manly and independent and at the same time fair-minded and truth loving press. His labours in the cause of social reform were strenuous. Latterly, Mr. Malabari was actively engaged in the promotion of the Seva-sadan and other philanthropic objects. He steadily avoided publicity and declined honours.

* * *

Dr. P. C. Ray on the claims of the Indian Graduate

We publish in full Dr. P. C. Ray's speech at the Congress of the Universities of the Empire in London on July 3 in which Dr. Ray put in a vigorous plea for a more generous recognition of the merits of an Indian graduate. Dr. Ray said:

"I rise, my Lord, to associate myself with the weighty remarks made by my brother delegates from the colonies,—Prof. H. B. Allen (Melbourne) and Professor Frank Allen (Manitoba).

The Indian Graduate also is placed under peculiar disadvantages when he undertakes to pursue his post graduate studies in a British University. My Lord, I plead for a more generous recognition of the merits of an Indian graduate; he has, I am afraid, the badge of inferiority stamped upon him simply because he happens to be an India-made ware. I can speak with some degree of confidence about the particular subject which I have the honour to profess, namely Chemistry. Now, of late there have been some brilliant students engaged in post-graduate researches and as their communications find hospitable reception in the columns of the leading British Chemical Journal I take it that they are considered as of a fair degree of merit; and yet it is a strange anomaly that when the authors of these investigations

come over here and aspire for a high British degree they are made to go through the trodden path in the shape of having to pass the preliminary examinations and this has a depressing and deterrent effect upon the enthusiasm of our youths. I think the suggestion made by a previous speaker that such a scholar should only be made to pass through a probationary period under the guidance of a teacher whom he chooses and if he fully satisfied him—the colonial or Indian student should at once be allowed to go up for the highest degree on the strength of his thesis alone. Sir Joseph Thomson has spoken about the rich endowments and scholarships required to encourage a post-graduate scholar. The Calcutta University has already founded a good few post-graduate scholarships and expects to have more. But I beg however to remind the representatives of the British Universities present here that we in India have from time immemorial held aloft the high ideal of plain living and high thinking and that with even comparatively poor stipends and bursaries we hope to achieve much.

My Lord, I do not for a moment claim that the teaching our Universities impart is of the same degree of efficiency as in the sister British Universities—in fact we have much to learn from you—but I beg leave to remind you that inspite of their many defects and drawbacks, our Universities have produced some of the brightest ornaments of our country. The foremost lawyer of Calcutta—a man renowned throughout India for his high forensic attainments—is a graduate of the Calcutta University. Three of the most eminent physicians and surgeons of Calcutta who have attained to phenomenal success in their professional career are again graduates of my own University and last but not least the present Vice-Chancellor of our University, who enjoys the unique distinction of being three times in succession elected to his onerous duties by the Chancellor of the University who is no other than the Viceroy himself—I say, Sir A. T. Mookerjee is also a product of the same University.

My Lord, before I resume my seat I once more plead for a more generous recognition of the teaching imparted in our colleges."

* * *

Death of a French Mathematician

The death is announced of the mathematician, M. Henri Poincare cousin of the French Premier.

* * *

An Educational Endowment

The Maharajah of Nabha has decided to commemorate the name of his father, the late Maharajah Hira Singh, by an educational endowment of Rs. 1,50,000 the interest of which will be awarded as scholarships to the sons of Nabha subjects without distinction of caste or creed to enable them to finish their education in Europe or any other foreign country.

* * *

An Elementary Education League

In connection with his praiseworthy proposal for the establishment of an All-Malabar Elementary Education League, Mr. M. C. Krishnavarma Rajah proposes forming a Company with a capital of Rs. five lakhs, divided into 50,000 shares of Rs. 10 each. The concern will be registered under the Indian Company's Act.

* * *

Death of an Editor

We regret to record the death of Rai Srish Chandra Sarvadhikary Bahadur, Editor and Proprietor of the "Hindoo Patriot." The deceased had been suffering for the last two months and was under the treatment of Col. Calvert, Principal, Medical College. His condition, however, became worse and he expired the age of 53 mourned by a large circle of friends and admirers.

* * *

An Appreciation

Professor Rama Deva of Gurukula has been elected a member of the Royal Asiatic Society, London. The Professor is the author of the History of Ancient India, written in Arya Bhasha.

* * *

Primary Education

Babu Pitamber Chatterjee, a respectable gentleman of Konnagar, Bengal has offered to the Serampore Municipality Rs. 10,000 in 3½ per cent. Government Promissory notes togeth r with 3 cottahs of rent-free land and a small brick-built house standing theroen at Konnagar for a free Upper Primary School there in memory of his ancestors.

WANTED.—Graduates (Science and Art Faculties) for employment in Educational line in U. P., C. P., Punjab on Rs. 60 per month. Apply to Service Securing Agency, Delhi.



CALCUTTA UNIVERSITY.

Fellow

Mr. R. Nathan, C. S., C. I. E. is nominated an ordinary fellow of the Calcutta University.

Senate Meeting July 20, 1912

A meeting of the Senate of the Calcutta University was held at the Senate House, College Square, yesterday afternoon, with the Hon. Sir Ashutosh Mookerjee, Vice-Chancellor, in the chair. There was a fair attendance of Fellows.

University Lecturers

The Senate, accepting the recommendation of the Syndicate, resolved to move the Government of India to sanction the appointment of the undermentioned gentlemen as University Lecturers in the subject noted against the name of each, for a term of two years with effect from the Session of 1912-13:—

Pandit Bhimsen Sarma, Sanskrit (Vedas).

Ramdas Khan Esq., M.A., Mental and Moral Philosophy.

Pandit Taraprasanna Vidyaratna, Sanskrit.

Pandit Prasannakumar Tarkanidhi, Sanskrit.

Pandit Sitikantha Vachaspati, Sanskrit.

Pandit Muraridhar Banerjee, M.A., Sanskrit.

Pandit Asutosh Sastri, M.A., Sanskrit.

Babu Rakhaldas Banerjee, M.A., Epigraphy (Sanskrit and Pali).

Mr. A. Rasul, M.A., B.C.L., International Law.

Mr. S. Khoda Bux, M.A., History of Islam.

Mr. N. N. Gupta, M.A., Constitutional History.

Mr. K. P. Jayaswal, B.A., Ancient Indian History.

Mr. M. N. Basu M.A., Comparative Politics.

Mr. M.A. Hafiz, B.A., Economic History.

Babu Subodhchandra Mukerjee, M.A., History.

Mr. S. C. Williams, B.A., Economics.

Zoology course for Pr. Sc. M. B. Exam.

The Senate accepted the recommendation of the Syndicate and approved the following Syllabus in Zoology prescribed for the Preliminary Scientific M. B. Examination in the subject:—The Scope of Zoology and its relationship to other Sciences; The nature of living matter and the contrast between the Animal and the Plant; The Cell—its structure and function; Cell division. The Morphology and life history of Amoeba, Vorticella. Nyctotherus and Monocystis. A summary of the main characters of the Protozoa. The Morphology and life history of Hydra, and a comparison between the Protozoa and Metazoa. Comparison of the Coelomata and the Coelenterate. The functions of the Coelom. The Morphology and life history of the Earthworm. The Morphology and life history of the Prawn (Palemon) and the history of Cockroach, and compare them with the typical structure of the Annelida. The Morphology of the fresh water Mussel (Unio), and the land snail (Achatina). The general characters of the Vertebrata. The Morphology of a fish—preferably an Elasmobranch. The Morphology of the Toad (Bufo), and comparison with the fish. The Morphology of the Mammal (Guinea-pig). An elementary study of the development of the chick and the rabbit. The development of the Amnion and Allaptois and the formation of the placenta. Outlines of the theories of Evolution, Darwinism, and Mendelism. Practical Course:—The use of the microscope. A general acquaintance with the tissues of the animal body. Dissection of each of the above-mentioned types and a detailed knowledge of their structure.

M. A. & M. Sc. Classes in Pure Mathematics

THE following gentlemen have been appointed University Lecturers in the above subject:—(1) Dr. Syamadas Mookerjee, M.A., Ph.D. (2) Mr. Indubhushan Brahmachari, M.A. (3) Dr. Haridas Bagchi, M.A., Ph.D. During the session 1912-13 the University Lecturers in pure Mathematics will deliver the following course of lectures:

—*Fifth-year Class.* (From July to November 1912.) Paper II.—Mr. Brahmachari, 2 lectures a week. Paper III.—Dr. Mookerjee, 4 lectures a week. Paper IV.— Dr Mookerjee, 3 lecturers a week. Paper V.—Dr. Bagchi, 7 lectures a week. (From December 1912 to April 1913. , Paper I.—Dr. Bagchi, 7 lectures a week. Paper II.—Mr. Brahmachari, 2 lectures a week. Paper IV.—Dr. Mookerjee 2 lectures a week. Paper VI.—Dr. Mookerjee, 5 lectures a week.

Sixth-year Class. (From July to November 1912.) Paper I.—Dr. Bagchi, 3 lectures a week. Paper II.—Mr. Brahmachari, 3 lectures a week. Paper V.—Mr. Brahmachari, 3 lectures a week. Paper VI.—Dr. Mookerjee, 3 lectures a week. (From December 1912 to April 1913.) Paper III.—Dr. Bagchi, 3 lectures a week, Paper IV.—Dr. Mookerjee, 3 lectures a week. Papers VII and VIII.—(Projective Geometry). Mr. Brahmachari, 6 lectures a week.

M. A, Classes in Arabic and Persian

The undermentioned gentlemen have been appointed University Lecturers in these subjects.

Arabic.—(1) Shamsul-Ulama Saikh Mahamed Gilani, (2) Dr. Abdulla Al Mamun. Suhrawardy M. A., PH. D., D. LITT. Bar-at-law

Persian.—(1) Shams-ul-Ulama Shaikh Mahamed Gilani, (2) Z. R. Zahid Suhrawardy, M. A., B. L. Bar at-Law, (3) Aga Muhammed Kazim Shirazi.

University Pali Classes

From the 1st of August 1912, Samana Punnananda will hold classes in Pali at the Senate House for the benefit of Matriculation, I. A. and B. A. students. The fees charged for admission are Matric and I. A. Re. 1 per month, B. A. Rs. 2 per month.

Affiliation

It is hereby notified that, on the recommendation of the Syndicate and the Senate, the Government of India have been pleased, under section 22, read with section 21, sub-section (4) of the Indian Universities Act (VIII of 1904), to order that, with effect from the commencement of the current session, the Indian Association for the Cultivation of Science shall be further affiliated to the University in Botany to the B. Sc. Pass standard.

Jubilee Research Prizes

As no essays or theses were received by the University for the Jubilee Research prizes for 1910, 1911 and 1912, the Hon'ble the Vice-Chancellor and Syndicate have decided to award six Jubilee Research prizes in 1914. It is accordingly hereby announced for general information that the following subjects—three Literary and three Scientific—have been named by the Syndicate for the six Jubilee Research prizes for 1914:—

Literary subjects.

1. The history of Ancient Indian Medicine, with special reference to Vedic Ages.
2. Buddhistic Philosophy with special reference to the Madhyamika School.
3. History of prices and wages in India with special reference to Bengal.

Scientific subjects.

1. The isolation of active constituents of Chalmugra and Gurjan oils.
2. The Chemistry of Nitrites.
3. The temperature variation of torsional rigidity of Nickel.

The competition for the prizes will be open to all persons who have at any time been admitted to a Degree in this University and each prize will consist of a gold medal of the value of Rs. 150 and a sum of Rs. 350 in cash.

The theses or essays submitted for the prizes should be sent privately to the Registrar not later than the 30th of June, 1914. Every thesis must bear a motto but not the name of the candidate and must be accompanied by a sealed envelope bearing the same motto outside and containing inside the name and address of the candidate.

Every candidate is required to indicate generally in a preface to his thesis, and specially in notes, sources from which his information is taken, the extent to which he has availed himself of the work of others and the portions of the thesis which he claims as original. He is further required to state whether his research has been conducted independently, under advice, or in co-operation with others, and in what respects his investigations appear to him to tend to the advancement of knowledge.

Every candidate will be at liberty to publish his thesis, and the thesis of every successful candidate will be published by the

University. The Syndicate may also, at its discretion, publish any thesis which has been specially commended.

Board of Sanskrit Examination

The Sanskrit Examination Board, has been reconstituted for one year with effect from the 19th June, 1912, with the existing President, Members and Secretary, namely:— The Hon. Justice Sir Ashutosh Mookerjee President, Dr. G. F. W. Thibaut, Mahamahopadhyayas Jadu Nath Sarbabhauma (Nadia), Chitradhar Misra (Mithila), Kali Prasanna Bhattacharjee M A. (Barisal) Sib Chandra Sarbabhauma (Bhatpara), Pandit Jagannath Misra (Orissa), Rai Rajendra Chandra Sastri Bahadur (Calcutta), Pandit Prasanna Chandra Vidyaratna (Dacca), the Principal of the Sanskrit College, ex-officio Secretary.

Paper Setters, 1913—will be out in August No. 1.

MADRAS UNIVERSITY.

M. A. Exam. Results

The following is the list of candidates who passed the M. A. Degree Examination held in April 1912 :— Branch I (Mathematics). Second Class: Appukuttan Eradi, Kachalil (Presidency College, Madras). Sadasiva Aiyar, M.R. Private study). Third Class : Ganapati C. N. (Presidency College, Madras, and Private study,) Anantakrishnan, S. (Presidency College, Madras,) Venkatarayan, Sekharipuram V. (Private study,) Sankara Aiyar. N. (Madras Christian College and Private study.)

Branch II-A (Physics). Third Class: Ganapatisubrahmanyam, S. (Presidency College, Madras, Madras Christian College, and Private study,) Ramaiya, R. (Madras Christian College, and S. P. G. College, Trichinopoly.)

Branch II-B (Chemistry.) Third Class : Veeraraghavan, Kadayam C. (Presidency College, Madras.)

Branch III-C (Zoology). Third Class: Narayanasami, A.V. (Madras Christian College and Presidency College, Madras.) Sundararaj, B. (Madras Christian College.)

Branch IV (Philosophy). Second Class : Rama Aiyar, Sesha (Private study). Ponnuswami Aiyar Arinkunram R. (Madras Christian College.)

Branch V (History) Third Class : Gopala Menon, A. (Maharaja's College, Trivandrum) Qadir Husain Khan (Madras Christian College Nizam College, Hyderabad and Private study.) Subramanya Aiyar, Koduvayur I. Madras Christian College.) Subba Rau, Muttarazu (Madras Christian and Private study). Ekambaram, Chinnakavanam N. (Do.) Srinivasan, Venkataraman (Madras Christian College.) Venkataraman, Anappattur V. (Private study.)

Branch VI (English). First Class : Seshachala Aiyar, Brahmadesam C. (Tamil). Madras Christian College . Second Class: Chinnaswami, K. (Latin) (Presidency College, Madras.) Third Class : Srinivasaiya, Kaliyur (Kanarese) (Presidency College, Madras.) Rama Varma, 21st Prince of Cochin (Sanskrit) (Do.) Vaidyanathan, K. S. (Sanskrit) (Private study). Ramaiya, T. A. (Sanskrit) (Madras Christian College and Private study).

Branch VI (Sanskrit). Third Class: Krishnan, P. Ramaswami (Sanskrit) (Presidency College, Madras and Private study.) Parameswaran Pillai, K (Sanskrit) (Maharaja's College, Trivandrum). Gopalakrishnamma, Kuchimanchi (Sanskrit). Private study.

BOMBAY UNIVERSITY.

Sir George Clarke on University Reform

His Excellency the Governor, in the capacity of Chancellor of the University has written a lengthy letter to the Vice-Chancellor on the subject of the generous grants of Rs. 45,000 recurring and three lakhs non recurring by the Government of India to the Bombay University, which open out new possibilities of the greatest importance to the Presidency.

His Excellency points out each college affiliated has sought to maintain itself as a separate teaching university and corporate action is wholly wanting in the higher functions. The responsibilities of a university, as they are now generally understood remain to be accepted and turned to account. Recent changes will render it practically impossible in future for the colleges to be self-contained teaching units. There is now an honours course to deal with, and comparatively small classes in a variety of subjects will replace largely attended lectures in a few compulsory studies. These changes will have far-reaching effects upon higher education and they

require careful organization on the part of the new university in order that their full benefits may be reaped.

"We are thus already faced with the necessity of reforms directed to secure corporate action for the common good. The time has come when the conception of the functions of the University needs to be broadened in order that it may take its rightful place in leading and directing the advancement of higher knowledge in our Presidency. It should be realised that the duties of the University do not begin and end with examinations and the conferring of degrees, thus lapsing as soon as a student is graduated. A living University should not concern itself with students alone. It should be an intellectual force in the State spreading knowledge and creating an atmosphere in which culture and research in all varied departments of human learning can continuously grow and flourish. I assume that these propositions would now receive general acceptance in India as elsewhere, but it may be said that the University of Bombay has not hitherto been in a position to give practical effect to them. The welcome assistance provided by the Government of India goes to destroy this plea. The University can now move in the direction of that wider and more vigorous life which its dignity and responsibilities alike demand. It may either continue to follow the lines of routine which can end only in disappointment and discredit or it may become a true centre of light and leading, working continuously to promote the advancement of knowledge and helping to forward the highest intellectual aspirations of the Indian people. What is now imperatively demanded is the laying of a policy to serve for the future and the application of means available for the purposes of that policy.

I am sure that it is now possible to obtain from Great Britain brilliant scholars of accepted authority who would come out during the cold weather and deliver courses of lectures at Bombay and Poona. I suggest that three such lecturers should be obtained this year. The subjects should not necessarily be treated from the point of view of University examinations. The lectures should be such as would appeal to educated Indians and would give fresh impetus to thought and study which is greatly needed."

Adjourned Senate meeting

The adjourned meeting of the Bombay University Senate was held on the evening of the 17th, the Hon'ble Sir Narayan G. Chandavarkar, Vice-Chancellor, presiding. The debate was resumed on the proposition of Sir Pherozeshah Mehta for the appointment of a Committee to revise the regulations of the University, dealing with the subjects of the order of business and the rules of debate. There were many speakers for and against the proposition.

Sir Pherozeshah in replying said that in the course of his public life which had been connected with the Senate for over forty years, he had learnt to receive hard blows with cheerfulness and sometimes with enjoyment, but, as people had talked seriously of the personal irritation and personal feeling he had introduced in the debate, he would venture to say that it was with the greatest pain he heard of an insinuation thrown at him by one for whom he had very great admiration namely, Dr. Bhandarkar, who said that his obstructionist tactics were reserved for Indian Vice-Chancellors. This statement, the speaker said, was void of foundation and truth. He had always stood up for Indians and was foremost in congratulating Indians on their elevation, to a higher sphere of life. In conclusion he said his sole object was to revise the rules and he had no desire to curtail the discretionary powers of the Vice-Chancellor, and he emphasised the fact that he never meant that his proposition should be a slur on any one.

The proposition was then put to the vote and was carried by 38 votes against 30.

The Committee was then appointed, with Sir Basil Scott as Chairman to revise the rules.

Second LL.B. Exam. June 1912 Results

Second Division:—1 Abbyankar S. P. 2 Acharya K P, 7 Bhat N R, 9 Bhide H B, 10 Bhide R K, 11 Chandorkar R V, 13 Chilagondanahalli R R. 14 Chinoy C N, 15 Dalal C A, 17 Daulatjada B S, 24 Dhopeshwarkar A D, 27 Dubash D N. 30 Fatehi, T M, 31 Gandi R P, 35 Guru K M, 36 Harjpalani L S, 44 Joshi R K. 42 Joshi SV, 43 Kabad A N, 44 Kadri S A M. 45 Kale K G, 49 Khare S R, 51 Khote T E, 52 Kirpalani S M, 54 Krishnamurti S, 58 Lobo W J, 59 Madabhushi Runganadhacsari, 60

Makdum G M M, 61 Mama N F, 62 Mangalvedhekar Vithal Rajerao, 63 Masani P S, 64 Mascarenhas James H A, 65 Mehta B D, 69 Mehta J M, 71 Mehta M M, 73 Merchant G G, 75 Motwani K S, 76 Mulgaokar G V, 77 Mulla H F, 80 Nanavati Maneksha Hoshangsha 83 Nickte V A, 84 Oak S R, 85 Oka V L, 86 Oza K M, 87 Oza P M, 89 Pandya I K, 91 Parchure N G, 92 Parekh C C, 94 Patel K J, 95 Patel P S, 98 Patwardhan G B, 101 Ramchandani S T, 103 Ranade S T, 104 Rao H S, 107 Satghar S N, 108 Savnurkar S K, 109 Shah C C, 110 Shah V K, 113 Shinde S R, 117 Sohoni H R, 118 Spencer H B, 119 Spencer H S, 120 Srinivasa R M S, 121 Shrinivasa R M, 123 Tadivala J S, 124 Tafke M V, 125 Thakar V R, 127 Thanedar G N, 129 Umarwadia T K, 130 Vad R M, 132 Vakil N R, 133 Vasi P P, 135 Vazirani H G, 138 Walvekar N H.

Not Classed.

(*Exempted from Papers II and III.*)

3. Advani Lekhraj Hukumatrai 47 Katrak B S.

PUNJAB UNIVERSITY.

The following candidates have passed the examination for the Degree of Bachelor of Science, 1912 :—

B. Sc. Exam, 1912 Results.

Khalsa College, Amritsar : Lehna Singh Bindra. Forman Christian College, Lahore : F. Maya Das, Raghu Nath Das Talwar. Government College, Lahore : Sri Kishan Kapur, S. L. Ghose, Haripada Chowdhury, Shiva Deva Singh Groval, Har Narinjan Das Coomar, Bahadur Singh, Kundan Lal Bhatia, Karam Chand Mehta, Jiwan Das Sethi.

The following candidates have passed the examination for the Degree of Bachelor of Teaching :—

B. T. Exam. Results

Central Training College, Lahore.—Devi Dayal Sh., Mahomed Ghani, Mahmud Hassan Niaz Ali, Indar Sen Jain, Pindi Das Talwar, Bhagwati Pershad, Maharaj Narain Razdan, Charanjit Lal, Hakim Din, Lily A. Uppal, Kanshi Ram, Lilla F. Sircar, S. Ali Hasan, Bhagat Ram Aggarwal, Murli Dhar Moudgill, Jaiwant Ram, Ram Das, Behari Lal Anand, Faqir Chand, Gian Singh, Bhagwan Singh, Udham Singh, Vishnu Das, Bhagat Ram Sharma, Mubarak Ali, Thakur Das Vaid, Mahomed Sadr-ud-Din, Amba Sahai Basal.

Result of the I. A. Exam. 1912

The number of candidates that passed from each College at the last Intermediate Exam. (Arts Faculty) is given below :— Hindu College Delhi—7, St. Stephen's College Delhi—25, Khalsa College, Amritsar—30, Mohindra College Patiala —38, Murray College Sialkot—17, Gordon Mission College Rawalpindi—10, Edwarde's College Peshawar—12, Prince of Wales College Jammu—9, Sri Pratap College Srinagar—15, D. A. V. College Lahore—121, Dyal Sing College Lahore —60, Forman Christian College, Lahore—39, Government College Lahore—29, Islamia College Lahore—23, Oriental College Lahore—1, Sadiq Egerton College Bhawalpur—8, Randhir College Kapurthala—18.

Medical Exams. 1912

The following candidates have passed the Medical Examinations held in 1912 :— First Professional Examination for M. B., B. S :—Tirath Ram Khanna, 689 marks ; passed with Honours in Physiology. Amar Singh Dogra, 548 marks. Madan Gopal Bhandari, 610 marks. Nanak Chand Mohau, 557 marks. Prem Nath Suri, 612 marks. Jamit Singh, 500 marks. Sankar Lal, 662 marks ; passed Honours in Anatomy. Raja Singh, 604 marks. Munshi Ram Gupta, 578 marks. Sunder Lal, 577 marks. Sobha Ram, 541 marks. Banarsi Das, 498 marks. Jai Diyal Gadi, 649 marks ; passed with Honours in Materia Medica. Jodha Ram, 528 marks. Yar Mahomed Khan, 532 marks. Ram Nath Khosla, 559 marks. Madan Lal Rikhye, 602 marks. Raghu Nath, 573 marks. Umrao Sinha Gupta, 613 marks. Manohar Lal Bhargava, 628 marks ; passed with Honours in Anatomy. Abdul Hamid, 476 marks. Daulat Ram Bhalla, 550 marks. Nain Singh Gurkha, 450 marks.

Mahomed Yusuf, 550 marks. Malik Anup Singh, 541 marks. Ghulam Ahmad Khan, 660 marks. Raghubir Singh Bhargava, 565 marks. Amar Nath Madhok, 629 marks. Santokh Singh, 536 marks.

Second Professional Examination for M. B., B. S :—Amir Chand, 483 marks ; passed with Honours in Pathology and Hygiene. Triloki Nath Varma, 435 marks ; passed with Honours in Hygiene. Sain Das, 330 marks. Ganesh Das Kapur, 379 marks. Jagat Ram Kochhar, 377 marks. Niolamber C. Joshio, 394 marks. Hem Chandra Chakravarti, 342 marks. Mula Singh, 346 marks. Gopal Das Madhok, 390 marks. Ataullah Butt, 414, marks ; passed with Honours in Pathology. Kanhya Lal Bhatia, 398 marks. Hari Rama, 337 marks. Manohar Lal Bhagat, 348 marks. Kishori Lal Choudhury, 365 marks. Sanat Singh, 318 marks. Mahomed Nawaz, 331 marks. Bal Krishna, 314 marks. Prabhakar Tevari, 413 marks.

Final Professional Examination for M.B.,B.S :—Het Ram Aggarwal, 667 marks ; passed with Honours in Medicine. Jagdish Chandra, 639 marks. Harsukh Rai, 728 marks. Beli Ram, 613 marks. Dwarka Nath, 595 marks. Sant Singh, 720 marks. Jagannath Prasad, 680 marks. Khushbakht Rai, 657 marks. Fazal-ud-Din, 680 marks. Chuni Lal Sharma, 669 marks. Beni Prasad, 713 marks. Piyara Lal Bahal, 677 marks. Nehchal Das Puri, 648 marks. Kripal Singh Thapar, 586 marks. Kanwar Lal Jhanjoe, 734 marks. Ghulam Mahomed, 679 marks. Radha Krishan, 687 marks. Gopi Chand Bhargava, 623 marks. Daulat Ram 593 marks. Mahomed Afiat Khan, 663 marks. Nand Lal Chopra, 580 marks. Devi Das Kapur, 636 marks. Narendra Singh Dogra, 638 marks. Nawab Din, 577 marks.

The following candidates have passed the Second L. M. S. Examination under Transitory Regulation (p. Calendar page 234 :—P. N. Sen, 909 marks. Daya Ram Kapur, 987 marks. H. N. Bose, 1032 marks. Bishan Das, 882 marks. Ram Gopal, 900 marks.

ALLAHABAD UNIVERSITY.

Change in Regulation for the degree of Lt. D.

The following changes in Chapter XVII of the University Regulations dealing with the Degree of Doctor of Letters have been sanctioned :—For the existing regulations under this chapter *substitute* the following:—

1. Any Master of Arts of the University may, at least three years after he has taken the M. A. Degree, be admitted to the examination for the Degree of Doctor of Letters.

2. The examination will be entirely ***viva voce***, based chiefly on an original thesis offered by the candidate, at least six months before the annual meeting of the Senate, upon—

(*a*) any subject connected with Ancient India (History, Philology, Archæology Philosophy, Religion), if the candidate has taken his M. A. Degree of Sanskrit;

or (*b*) Arabic Philology, Comparative Philology of the Semitic languages, History of Arabic language and literature, if the candidate has taken his M. A. Degree in Arabic.

3. A candidate who has been found qualified for the Degree of Doctor of Letters shall pay to the University, through the Registrar, the sum of rupees two hundred (Rs. 200) for the diploma of the said degree.

4. Every candidate, who intends to supplicate for the said degree, shall communicate his intention to do so, to the Registrar and also the special subject chosen by him for the original thesis. No application for admission to the said degree will be entertained, unless it is supported by two members of the Faculty, or two Doctors of the University, who shall have testified that the applicant is a fit and proper person to supplicate for the degree. The communication shall be laid before the Faculty of Arts. If the application is approved, the Faculty shall appoint a board of three members, who, if so required, advise the candidate as to the amount of knowlege and research required of him.

5. When the supplicant has prepared his thesis, he shall forward it to the Registrar for submission to the afore-said Board, stating therein

what part of it he himself considers original, and what authorities he has utilized in preparing it.

6. The board aforesaid shall proceed to examine the said thesis with a view to determining its value and importance. If, in the opinion of the Board, the thesis evinces sufficient merit and research, they shall, through the Registrar, instruct the candidate to present himself for a *viva voce* examination at a date, time and place to be fixed by the Dean of the Faculty in consultation with the members of the Board.

7. If after the *viva voce* examination, the Board are satisfied that the candidate has really worked on original lines and is conversant with his subject, and is fit and proper person for the degree, they will make a recommendation to that effect to the Faculty of Arts.

8. Such recommendation shall be laid before the next meeting of the Faculty, and if approved by it, shall be submitted through the Syndicate to the Senate, along with other motions for the conferment of degrees under section 16 of the Indian Universities Act of 1904.

Practical Exem. in Biology

Candidates for the *Practical* B. Sc. examination in *Biology* must, for the examination of 1913 and future years, provide themselves with their own scalpels, scissors, and forceps, together with one razor, for use during the examinations.

Intermediate re-exam. results

The following are the names of the candidates who have passed the Intermediate re-examination held at Nagpur in June :—Second Division.—Pastekar Manohar Balwant, Saungikar Narsing Vinyak, Isaac Joseph, Laxman Narayan Huddar, Mahadeo Ramchandra Chandorkar, Vinayek Trimbak Thokekar, Ghulam Mohi Uddin Sufi. Third Division — Agnihotry Vithal Mahadeo, Bobade Bajirao Namdeo Chhatre Vinyak Govind, Deshpande Shantaram Shanker Rao, Gharpure Damodhar Vyankatesh, Hirurkar Narayan Pralhad, Kelkar Laxman Hari, Keshkar Vishnu Narhar, Khotkar Dattatraya Janardhan, Kulkarni Bharat Ramchandra, Mahomed Abdus Sattar Khan, Nande Shrikrishna Narayan, Ranade Chintaman Ramchandra, Shekdar Vishwanath Bhasker, Tikle Shankar Madhaorao, Virkar Kashinath-Balkrishna Faiz Mahomed Khan, Rastur Chand Agarwala, Leonard G.D'Silva, Mahomed Ahamaduilah Khan, Mirza Abdul Hafix Baig, Narayen Ramkrishna Pandharpurkar, Narayen Govind Adbey, Sayed Faizal Hassan, Vithal Ramchandra Kelkar, Vinayek Martand Waiker, Venkatesh Damodhar Vaidya, Venkatesh Krishnaji Gujewar, Wasudeo Shridhar Kirolikar, Yeshvant Solomon Timothy, Quadir Ali.



and Schools.

Sibpur Civil Engineering College

The following gentlemen are appointed to be members of the Board of Visitors of the Civil Engineering College, Sibpur :— The Hon'ble Mr. P. C. Lyon, Secretary to the Government of Bengal, Public Works Department ; Director of Public Instruction, Bengal ; Commissioner of the Burdwan Division ; Agent, East Indian Railway ; Manager, E. B. S. Railway ; Agent, B. N. Railway, Chief Inspector of Mines ; District Magistrate of Howrah ; Civil Surgeon of Howrah ; Inspector of European Schools, Bengal ; Principal, Engineering College, Sibpur, Secretary : Secretary to the Government of Bihar and Orissa, Public Work Department, Roads and Buildings Branch ; Director of Public Instruction, Assam ; Head Master of the Dacca School of Engineering ; Principal, Bihar School of Engineering ; The Lord Bishop of Calcutta ; Mr. S. H. Heslop, General Manager, New Birbhum Coal Co. ; Mr. Phanibhushan Mukerjee ; Babu Nibaranchandra Sirkar ; Sir R. N. Mookerjee ; Mr. W. R. Steele ; Dr. Nilratan Sircar ; Nawab A. F. M. Abdur Rahman ; Mr. W. B. Mac-Cabe, Chief Engineer to the Corporation of Calcutta ; Mr. R. R. Simpson, Senior Inspector of Mines ; and Mr. W.Tate. Professor, Engineering College. Sibpur, Assistant Secretary.

Judging from the report for the year 1911-12, of the Madras Law College, we should say that the

Madras Law College

working of tha institution has been fairly satisfactory. According to the report of Mr. R. A. Nelson, the Principal of the College, the total number of students on the rolls on the 31st March 1912 was 455 against 301 in 1910-11, thus showing an increase of 154 students. With regard to the University Examinations, 88 students appeared direct from the College during the year under report for the B. L. Degree of whom 40 passed, 203 appeared for F. L., 108 having secured a pass. No examination took place during the year under report, as regards Pleadership students, for the date of the Examination had been shifted to April-May. Referring to financial affairs, we find that there was a surplus of Rs. 34, 132, the largest in the history of this College as pointed out by the Principal. We learn from the report that the College authorities have been improving the institution by the provision of electric lights and fans. The Government could well afford to lower the College fees.

Gujrat College

The Government has assumed control of Gujrat College which will now be managed as a Government educational institution under the control of the Director of Public Instruction.

Bahauddin College Junagadh

The lecture on "Swami Dayanand Saraswati, his life and work" delivered on Friday evening the 5th instant by Shrijut Kavi Mahârani Shanker Sharma before the Bahanddin College Debating Club was on excellent pronouncement, instructive, as it was, of many important lessons.

With a few initiatory remarks the lecturer said : "The life of Swami Dayanand has a special interest and fascination for us Kathiawaris and failing to study His life means erring from a reverential duty to His pious memory. Our Swami flourished at a time when society and religious had reached a problematical stage in India which called for a practical solution. He had to root out weeds of superstition, blind faith and unprincipled dogmatism from the ground of religion before sowing in the seeds of true faith and sound religious convictions. It is to him that we owe the faithful elucidation of the Vedas, these doctrines, principles and philosophy. His strenuous and disinterested attempts at social reform have won him the ever lasting gratitude of the Hindu community." Prof. Bhatt, who was in the chair, in a speech eulogistic of the abilities of the lecturer pointed out some defects of our society and suggested some potent remedies thereof

A vote of thanks to the chair and the lecturer brought the proceedings of the day, to a close.

Agra College

The college opened on the 16th instant. Being a great rush of students in the college, there is no room in the boarding houses. Two more Bunglows have been hired. They too have been packed up with students. Many are going back disappointed for want of accomodation.

After spending one year in France, Germany and England Prof. Nag of Chemistry is again amongst us. He is very popular among students. It is owing to his presence in the college that there is so great a rush of science students.

A large number of Professors has been added to the college. Science staff has been considerably increased. One more Professor of Biology and three asst. demonstrators of Physics, Chemistry and Biology have been appointed. Mr. Ishwari Pershad B.A. an ex-student of the college has been appointed as Asst. Professor of History.



WORKINGMAN'S INSTITUTIONS.

An Appeal.

Several institution for imparting elementary education (including technical education) to workingmen have been started in Calcutta and the mofussil, during the last few years. These institutions are worked almost entirely by voluntary teachers. A Central Committee has now been formed for organised effort in furtherance of the cause that these institutions represent. At present, eight different institutions [at Teghara (Sodepur) in the Barrackpur Sub-Division, Sompara, Kadai and Gorabazar in the Murshidabad district Manicktolla Street, Baitakkhana Road, Bowbazar and Narikeldanga in Calcutta] with 320 pupils and 55 workers are represented on the Committee. About a dozen more institutions are likely to join the committee within the next few months. The utility of these institutions has been proved and within a short time many eminent men like Sir Gurudas Banerjee, Sir R. N. Mukerjee, C.I.E., Mr. S. P. Sinha, Babu Rabindranath Tagore, the Hon'ble Mr. Justice Sharfuddin, Mr. H. W. Orange, Sir A. Pedler, Prof. W. S. Urquhart, Dr. Brajendranath Seal, Dr. P. C. Ray, Prof. Benoyendranath Sen, and others have expressed their sympathy with the objects of these institutions and lent their hearty support. The institutions not only impart education to workingmen by regular classes, lectures and magic lantern exhibitions but try to help them in their daily life by creating a new atmosphere among them, so that they may become better workmen in every way.

In view of the work that these institutions are doing with inadequate means, the Central Committee beg to appeal to the public for funds, to enable the Committee to help the extisting institutions to do their work more efficiently as well as to start new ones in localities in which there are no such institutions at present. Contributions sent to the President at 11, William's Lane, will be gratefully acknowledged. Communications should be addeessed to the Secretary, Central Committee of Workingman's Institutions, 82, Harrison Road, Calcutta.

D. N. MALLIK,
President.
BIDHAN CHANDRA RAY,
RADHAKAMAL MUKHERJEE,
Vice-Pesidents,

I. PUBLIC SECONDARY TECHNICAL EXAMINATION.

A. Mechanical Engineering :—

First Division. Hariram Sakhuja (Bengal Technical Institute) and Jitendra Kumar Ghosh. *B. Electrical Engineering.*

Bengal National Council of Education Technical Exams. 1912

First Division. Hariram Sakhuja; Surendra Kumar Roy; Rash Behari Banerjee and Dhirendra Lal Banerjee all from Bengal Technical Institute.

C. Geology.

Second Division: Mukunda Chandra Roy (Bengal Technical Institute).

D. Dyeing.

Second Division.

Suresh Chandra Das Gupta (Bengal Technical Institute).

II. PUBLIC PRIMARY TECHNICAL EXAMINATION.

A. Mechanical and Electrical Fitting.

First Division: Prafulla Chandra Roy, Moksada Manna, Durga Charan Ghosh, Hem Chandra Bose, Manorajan Sircar, all from Bengal Technical Institute.

III. FINAL DRAFTSMAN AND SURVEY COURSE EXAMINATION.

First Division: Bishnupada Sahu Kali Dhon Chatterjee and Nabin Krishna Mukhopadhyaya all from B. T.

IV. SPECIAL SECONDARY TECHNICAL EXAMINATION

First Division. Surendra Nath Chakravarty (Rangpur National School). Second Division: Nagendra Nath Gupta, Suresh Dastidar, Rungpur N. School. Third Division: Narendra Nath Sircar, Rungpur National School.

V. SPECIAL PRIMARY TECHNICAL EXAMINATION.

First Division: Sashadhar Chavravarty Mymen siug National School, Upendra Chandra Roy (Mymensing National School) and Nagendra Nath Bandopadhyaya (Rangpur National School) Second Division: Mukunda Lal Dutt (Rangpur National School) Brajendra Kishore Adhicary, Karuna Kanta Sircar, Mymensingh (no School) Jatindra Narain Roy Basanta Kumar Dey, Uma Charan Nandi and Jatindra Nath Nandi, Rungpur N. School. Third Division: Karuna Sindhu Mandaland Mohini Mohan Bagchi, Rungpur National School.

Commercial Exam. Results

The following candidates have passed the final examination of the Commercial Normal department, attached to the Reid Christian College, Lucknow, held in April 1912—*First Division.*—1 Keshava Shastri Manekar. *Second Division.*—2 R. C. Dey and 3 Ram Saran Sharma.

Analytical Chemistry class at the Indian Association for the Cultivation of Science Calcutta.

The class for instruction in *Analytical Chemistry,* was opened on the first of July, 1912.

Students, who have passed the Entrance or Matriculation Examination of the Calcutta University, are eligible for admission into the class. Those who have not passed the Entrance or Matriculation Examination may be admitted on their passing the Preliminary Test Examination of the Association. Only a limited number of students will be admitted. An admission fee of Rs. 5 and tuition fee of Rs. 5 per month well be charged from each student, and a deposit of Rs. 20 as a security against breakages.

Casual students will have to pay an admission fee of Rs. 5 and Rs. 18 in advance for three months working in the chemistry class and a deposit of Rs. 20 as a security against breakages.

The course for the Commercial Analysis Class will ordinarily extend to two years.

The course for the **first year** *will consist of:—*

I. Chemistry—Inorganic, having special reference to its technical aspects.

II. Practical Chemistry—Detection and separation of bases and acids. Preparation of reagents.

III. Elementary Physics—General Properties of Matter and Heat.

IV. A course of instructions on the use of Physical and Chemio-physical apparatus.

V. Elementary Botany—Morphology, Histology, Physiology and Classification of plants; a few important Natural Orders with special referenee to Indian Economic Products.

At the end of the first year an examination will be held on all the subjects, written and practical, in order to ascertain the fitness of the students for promotion to the 2nd year class. In this examination a student will have to secure 30 per cent. of the marks in each subject and 40 per cent. for the aggregate to earn promotion.

The course for the **Second year** *will consist of:—*

I. Chemistry—A more advanced course of Inorganic Chemistry and Organic Chemistry.

II. Practical Chemistry—Quantitative Analysis (Gravimetric and Volumetric).

III. Special analysis of water, milk, butter, ghee, flour, sugar, meat and other food stuffs, vegetable and mineral oils, spirits, wines, and malt liquors, drugs (Indigenous and European), indigo and other dye stuffs, and substances used in various arts and manufactures.

IV. Elementary Physics—Light, Electricity and Magnetism.

A strict examination, written and practical, at the end of the 2nd year will be held by a competent Board of Examiners. The successful student will be awarded a certificate by the Board of Examiners of having qualified as an analytical chemist.

OTHER EDUCATIONAL ADVANCES

Scope of Non-Official Universities

A press communique issued by the Education Department states :—It has been finally decided that the educational scope of of an University at Aligarh or Benares should be limited to the locality in which it may be established.

The Hindu University.

Great Meeting at Srinagar

On the 1st a meeting of about ten thousand people presided over by the Maharaja of Kashmir was held at Srinagar in connection with the Hindu University deputation. In response to the appeal of the Maharaja of Darbhanga who headed the Deputation the Maharaja of Kashmir delivered an eloquent speech soliciting subscriptions. The present gift of the Maharaja of Kashmir represents a capital value of the three and half lakhs. Dewan Amar Nath, Chief Minister, has given Rs. 1,200 yearly in perpetuity. There were other handsome subscriptions.

The Hindu University Scheme

The Maharaja of Darbhanga and Pandit Madan Mohan Malaviya are now dicussing the Hindu University scheme. The latter left Simla on the 12th and the former on the 14th instant. They will visit Umbala, Saharanpur, Hardwar and Lucknow to raise funds for the University. The total amount subscribed is now about 63 lakhs besides annual grants of 12 thousand rupees each from the Kashmir and Bikanir Durbars. About seven lakhs have been collected and the society which was registered will devote special attention to collection during the rains, and an effort will be made to induce the Government of India to undertake legislation as early as possible. This will, however, depend upon the collection as the official stipulation is that fifty lakhs must be put into a bank before legislative action is taken.

It is also excepted that the Moslem University Bill will be ready for introduction next winter if not earlier.

Meeting at Saharanpur

The Maharaja of Darbhanga and the Hon. Pandit Madan Mohan Malaviya arrived here the morning of the 17th. instant and were received by all leading men. The procession passed through the finely decorated streets amidst great enthusiasm. The Maharaja of Darbhanga presided at a public meeting held here in connection with the Hindu University movement. About 400 people attended. The Hon. Pandit Madan Mohan Malaviya appealed for funds. About Rs. 23,000 oas been promised, of which about Rs. 4,000 was paid on the spot. We hope the district will contribute a large amount.

Bengal National Council of Education Result of Public Exams. 1912.

All the names are given in order of merit and those against which no name of college or school is specified are to be understood as belonging to the Bengal National College.

I. Proficiency Examination (4 years course.)

A Physics:—First Class, Hurendra Nath Mukerjee. Second Class. Sambhu Nath Bandopadhaya (External).

B. Chemistry:—Second Class. Sudhamay Chatterjee and Satyaranjan Roy.

II. Proficiency Examination (2 years course.)

A. History:—Third Division. R. S. Pimputkar.

III. Seventh Standard Examination.

A. Literary Course:—First Division Jitendra Krlshna prize winner Amalendu Das Gupta (Lit. A.) Jitendra Candra Banerjee (Lit. A.). Second Divisoin, Jogendra Nath Choudhury (Lit. B.) Monohar Sircar (Lit. A.)

B. Scientific Course:—First Division. Digindra Kumar Ghosh (Sc, A.) Second Division. Upendra Kishore Roy (Sc. A.) Birendra Nath Sen Gupta (Sc. A.) Birendra Kumar Sen Gupta (Sc. A.) Purna Chandra Roy (Sc. A.) Third Division. Ramesh Chandra Samaddar (Sc. B.) and Jnanendra Nath Sen Gupta (Sc. B.). First Division. Kamini Kumar Mitra (Rangpur National School) (Jatindra Krishna Medal Winner.) Krshnaji Shrinivas Kowjalji, Harish Chandra Roy (Sylhet

National School.) Atul Chandra Bhattacharyya (Mymensing National School.)

Second Division :—Nirmalendu Das Gupta, Suresh Chandra Purkayastha (Sylhet National School) Dinabandhu Das, Manmotha Nath Pal (Sanihati National School) (External) Dhirendra Nath Sen Gupta (Jhalakati National School,) Durges Chandra Purkayastha Sylhet National School) Satish Chandra Dutta Jhalakati School.) Abinash Chandra Das Gupta (Sanihati National School) (External) Harendra Krishna Daw.

Third Division :—Sudhir Chandra Dutta (Sylhet National School) Krishna Bhusan Gupta, Brajendra Nath Das (Sylhet National School), Waman Laxman Panchkhede (External.)

All-Bengal Hindu Educational Conference

This year a fairly large number of boys belonging to the backward classes amongst us have passed the Matriculation examination. Nearly all the boys are in straitened circumstances. Every one of them is eager to prosecute his studies further. A few succeed in securing board and lodging either in the houses of their well-to-do fellow caste-men or of generous gentlemen belonging to other communities in the city. One main difficulty stands in the way of the majority of this class of boys and that is the payment of the College fees. Most of the colleges receive a number of applications in this season praying for concession in the matter of fees and all the private colleges very kindly set apart a number of free and half-free studentships. It is impossible however for the college authorities to grant the prayer in every case. We have resolved therefore to issue this appeal to the public on behalf of this class of students. Our intention is to collect a small fund out of which to pay the college fees of such students specially of the backward classes who cannot afford to study further on account of their inability in this respect. Any contribution will be most thankfully received by Dr. U. N. Mukerji, 56, Mirzapore Street, Calcutta and will be acknowledged in the *Bengalee*.

BYOMKESH CHAKRAVARTI.
SURENDRA NATH BANERJEA.
UPENDRA NATH MUKERJI.



Dr. Ray at Leeds

Our Leeds correspondent writes :—Dr. P. C. Ray, of the Presidency College Calcutta, came here on the 21st June and stayed for the week end as a guest of Dr. Cohen—the professor of Organic Chemistry in this University. The same evening Dr. Cohen invided all the Indian students to meet Dr. Ray at his house. Prof. Sadler, the Vice-Chancellor and Prof. Smithells—the professor of Inorganic Chemistry, were also present. We are extremely grateful to Dr. Cohen for his kind manners and hospitality. On saturday morning Dr. Ray visited the University and he was very much interested with the work of the science departments. On sunday morning he met the Indian students and in the afternoon he left for Sheffield. On the whole he seemed to be highly satisfied with the condition of the Indian students in Leeds he being of opinion that more of our students should come over to Leeds and as for ourselves, well, his visit will ever be remembered for his kindly and encouraging advice.

British Association at Dundee

The Dundee meeting of the British Association will offer many attractions—educational, scientific, and social. The attendance of foreign savants is likely to be large, Physiology being strongly represented. The presidency of Prof. Schafer doubtless contributed to this feature. Shipping problems and wireless telegraphy will be promi-

nent in the engineering section, and the geology of Scotland will not only receive attention in the form of papers and discussions, but will give rise to excursions of unique interest. We know that people can live at Dundee or Edinburgh without becoming geologists, but we cannot explain how they do it. Zoologists will have an excellent time, and a popular element will be a cinematograph exhibition of whale-fishery. The geographers will be occupied with problems of Africa and the Antarctic, while the chemists will devote most of their time to research in Organic Chemistry. The meeting will last from the first to the second Wednesday in September. The address of the Association is Burlington House, London, W.

LONDON UNIVERSITY.

Election of Vice-Chancellor for the Year 1912-13

Dr. Wilmot Parker Herringham, M.D., F.R.C.P., was elected Vice-Chancellor for the year 1912 in succession to Sir William Collins M.D., M.S., B.Sc., F.R.C.S., whose term of office had expired.

Director of Chemistry Laboratories at University College

Prof. J. Norman Collie, Ph. D., I.L.D., F.R.S. was appointed Director of the Chemistry Laboratories, University College, in succession to Prof. Sir William Ramsay, as from September 1st next.

Chair of Municipal Engineering at University College

On his retirement from the Edwin Chadwick Chair of Municipal Engineering at University College the title of 'Emeritus Professor" was conferred upon Prof. Osbert Chadwick, C.M.G.

University Readership in Graphics

Dr. W. H. Eccles, D.Sc., Head of the Department of Mathematics at the South-Western Polytechnic Institute, was appointed to the new University Readership in Graphics tenable at University College as from September 1st next.

Resignation by Professor Donnan of the University Chair of General Chemistry

The Academic Council reported that Prof. F. G. Donnan, F.R.S., had resigned the University Chair of General Chemistry to which he had been appointed as from September 1st, 1912.

Bequest by the late Mr. T. D. Murray to Department of Egyptology at University College

A bequest of £200 was accepted from the late Mr. T. D. Murray for the establishment of a Travelling Scholarship of that amount in connection with the Department of Egyptology at University College.

Oxford

The University has received three munificent gifts from Mr. Walter Morison. Mr Morison originally offered Balliol College £20,000 to pull down the present ugly Butterfield Chapel and restore as far as possible the beautiful sixteenth-century chapel which was wantonly destroyed in one of the worst acts of early Victorian vandalism. The College after some hesitation, resolved not to accept the offer. Since then Mr. Morison has given the University £10,000 to form the nucleus of a pension fund for Professors—a most useful purpose—and £10,000 to endow a readership in Egyptology. In the last week of term it was announced that he has given yet a third £10,000 to the University to endow the proposed Economic Research in Agriculture. It is proposed to spend £3,000 in equipment of laboratories and to use the income of the remaining £7,000 for the necessary annual expenses.

THE WORLD OF UNIVERSITIES

University of Würzburg

Würzburg, 4th July 1912

Dear Mr.-

Before I left India I had promised to let you know something about the German system of education in the Universities here. Now is the time to redeem this promise. Till now I was reading in Cambridge and now I have come over to this University of Würzburg. You may be interested to know that I am reading specially the ————at present and it will be the subject of my thesis.

To begin at the beginning. As you know education here is compulsory. A child begins at about six and the first school it attends is the Volkschule which are government institutions. All children must go to this school and must be there at least four and not more than nine years there. The children are even there distinguished into two groups one containing the children of the masses who are unable to afford higher education and the other of the higher classes who go in for the higher University careers. Taking the first mentioned first. These children go on in the school till the 15th year. They are almost exactly like the primary schools—the curriculum is reading, writing, arithmetic, a litile geography, a little history and some religion. The children are promoted year after year and there are nine classes but in no circumstances is a child allowed to be there more than nine years. He may leave before the nine years are out and most generally do so and then are sent on to the purely technical institutions which abound all over. Some go for the agricultural course, others for textiles and various industries, others again for carpentry or blacksmith's trade and other crafts. The boys mostly leave the school as soon as the rudiments of learning are acquired and after the minimum four years have been put in at the Volkschule (=Folk-school).

For those who want to go in for University careers. These leave the Volkschule immediately after the fourth year is complete and then they have three alternatives before them—(1) the humonistisches Gymnasium (the humanistic high school) (2) the Real Gymnasium and (3) the Oberreal Schule.

The first teaches entirely classical subjects. The boys have to be here about nine years but unlike the volkschule they must pass through the highest classes and in the 9th class must pass an examination before entering the University. This applies to all the three classes of schools and for strangers wishing to join the German Universities the standard of these "High schools" is required. It is a very high standard quite equal to the graduation in India. One fact must be borne in mind. The Germans rightly or wrongly believe that a man who comes to the Universities must know something of everything and everything of something. The Universities (except in the Legal and Medical Faculties) turn out men specialists in a very narrow sphere only. The thesis for the Ph. D. are highly specialised contributions appealing to barely half a dozen men in the world. Therefore it seems needful to cram the little brain as full of facts, during the nine years or more at one of these three kinds of High Schools, as possible.

To return to the classical department—the subjects are there spread over nine years—German (history, language, literature) Latin and Greek (history, language, literature and antiquities). Ancient Law—and Custom—Ancient Philosophy. Then as voluntary subjects one or more of the modern Latin languages—French, Italian or Spanish. This type of education is gone in for by the Theological people and by a few lawyers and of course the future Professors of this subject. In the Real Gymnasium there is an attempt made to blend the modern and the classical. There is "little Latin and no Greek." The subjects are German and Latin as before. French Science (elements of almost every branch) history (general European), Geography, Mathematics (including trigonometry) some slight psychology and philosophy. These are compulsory and then for optional, English or Italian or Spanish.

The Oberreal Schule is quite modern, no ancient languages there. Students must have the knowledge of *two* modern European languages besides German and one of these two must be French. The second is mostly English. Then there are all the various sciences in great detail and mathematics up to the calculus, history and geography. As optional they may have a further knowledge of one of these.

Then the student comes to the University. There he has a four years' course and either chooses the "Philosophical" or the "Scientific" faculty. Roughly speaking "Philosophy" means much the same as "Arts" in India. That is his chief subject on which he writes his thesis. He studies the particular subject or branch with a Professor in great detail and then chooses the subject of his thesis. This is sent up to the Senate for approval and then if approved, on an appointed day he sits for the examination. It is an oral examination lasting for about an hour during which his knowledge of the subject is thoroughly tested.

Besides this chief subject there are to be two "subsidiary subjects" and they must belong to the same faculty as the principal one. Very extensive choice is left except for this restriction. Thus I myself have chosen for my principal subject Sanskrit and my thesis will be on the first three chapters of the————and my subsidiary

subjects are "Comparative Philology" and "The science of education." In each of these there is an oral examination of about half an hour duration each. It is generally the professor himself who examines the students and he generally happens to know the work and worth of the students. There are no fixed days for the examination but the student is called up as soon as his thesis is ready and approved. If the thesis is not approved the student may write another.

In law and medicine however besides the thesis there is a written examination lasting over some days on all the branches of the subject.

Such is the system followed here. I forgot however one point that physical exercise (gymnastics) and religion are compulsory in all the three kinds of "High Schools."

I shall be happy to be of further use to you or to give you any more information you may want.

With good wishes,

Yours sincerely,
IRACH J. S. TARAPOREVALA.

YALE UNIVERSITY U. S. A.

PROGRESS REPORT DURING THE FIRST SEMESTER

BY

HEM DAS GUPTA (*Of the National Council of Education, Bengal.*)

Subjects.	Results. Fall.	Winter.	Spiring.	Books used.	Amount read.	Remarks.
German	D		D	(1) Word-Book. (2) German Grammar by W. D. Whitney (Prof. of Sanskrit and Comparative Philology and Modern Languages in Yale College). (3) Willkommen in Deutschland by W. E. Mosher (Prof. of German in Oberlin College). (4) Germelhausen by F. Grerstacker.	(1) Nouns only. (2) Almost whole book excepting several exercises at the end of the book. Pages—395. (3) About 70 Pages ; (4) Whole Book ... 46 Pages.	No final Exam in the winter term.
Mathematics	D	C	C	(1) Analytic Geometry (Solid & Plane) by Smith & Gate. (2) A special chapter on the same.	(1) Whole Book 47 Pages. (2) About 35 Pages. (3) Practical exercise on the same in the Drawing room (curve-plotting, solid drawing ; surface drawing.	
Mechanical Drawing	C	C		(1) Mechanical Drawing by J. M. Tracy C. E. (2) Supplement to the same by H. B. North. M. E.	Topics :—Geometrical problems, lettering, Sketching simple objects, use of curved rules ; orthographic projections ; Isometric and cabinet projections ; Solid tipped at angles ; Plane sections ; Dimentioned and working Drawings ; Tracing ; Conventional Drawings	Finished in winter term.

Subjects.	Results. Fall.	Winter.	Spring.	Books used.	Amount read.	Remarks.
Descriptive Geometry			C	No book used. Printed notes by Prof. Tracy C. E. & Prof. North M. E. supplemented by class notes & lectures.	Topics:—Points & lines in space; Planes; fundamental principles of solid Geometry; Traces of planes & lines; Revolution of points & lines in space, their applications; passing of planes through containing lines parallel or intersecting; intersection of planes; True length of lines in space; True length of borderline of Geometrical figures in space; plane sections; intersections of planes & surfaces; cone, cylinder, sphere; ellipsoid, paraboloid; hyperboloid; pyramid; ruled surfaces, tourns etc. Intersection of surfaces; development of surfaces; angle between lines in space; angle between planes; passing planes through a line & parallel to another line or plane; Revolution planes and so on.	Begins in Winter No Exam in Winter
Mechanical Technology			C	No fixed book Printed notes by Mr. H. L. Seward supplemented by lecture notes. Reference-books:— (1) Machine shop-tools & Methods by W. S. Leonard. (2) Lathe Design by Nicholson & Smith (3) Elements of Steam Engineering by Spanler, Green and Marshall. (4) I. C. S. Pamphlet on Materials of construction. (5) The American Machanist's Handbook by Colvin & Stanley. (6) Technical Dictionary Vol. I. (7) Modern Milling Machinery —— Joseph Horner.	We have visited about 20 shops of which Farrel Foundry & Machine shop—Bigelow Boilers Co.—New Haven gas Light Co. New Haven Watch Co., and N. H. Automobile Co., are the most important. We are to make free hand sketches of the typical machines and Engines etc. in the shops and are to make written reports of the operations of some of the important shops. We are to observe the mechanism of typical machines and to solve numerical problems relating to them.	Begins in winter, No final Exam. in winter.
Physics	A	*	A	Physics by Hastings & Beach	Whole book—758 pages supplemented by lectures. It is a condensed book specially meant for Sheffield Scientific School. It is just like notes.	*No final examination in winter.

Subject.	Results. Fall.	Winter.	Supring.	Books used.	Amount read.	Remarks.
Mechanical Lab	B			No Book used	20 Exercises in all with one complete Boiler test. Topics:—Pressure gauges; indicator spring ; Steam Thermometers ; Water Meters ; Planimeters, use of friction brakes ; Speed Counting ; throttling Calorimeters ; Pyrometers ; Flue gas analysis ; Measurement of clearance volume of steam Engine ; Brake test of Corliss Engine ; use of draft gauge etc.	
Thermo Dynamics		A		Applied Thermo -Dynamics for Engineers by W. D. Ennis M. E.	Almost whole book omitting several articles and chapters which will be taken with steam Engineering and gas Engineering. Pages429. Some of the Topics :—	
Steam Boilers		A		Steam Power Plant Engineering by G. F. Gebhardt ; Pages 900. Omitting 2 or 3 chapters and several articles.	General description of steam power plant ; fuels and combustion ; Types of Boilers ; unit of evaporation ; heating surface ; heat transmission ; H. P. of Boilers ; Grates ; Boiler and Furnace efficiency ; Boiler performances ; Effect of Capacity on efficiency ; Thickness of fire ; costs of Boiler setting ; selections of Type ; Influence of initial temperature on efficiency. Blow offs ; Damper regulation ; water gauge ; Softy Plugs ; Mechanical tube-cleaners ; smoke prevention ; use of steam tables ; effects of superheat ; Methods of Boiler trials ; measuring and testing Apparatus.	* Advantages of Turbines ; influence of superheat and high vacua*; condensers ; types; efficiency ; Injection orifice ; cooling Towers ; Pumps ; Separators ; Traps ; Drains ; Testing and measuring apparatus etc.
Steam Engineering		B			Topics :—Ideal Engine ; Thermal efficiency of actual Engine ; Mechanical efficiency ; Carnot and Rankin's efficiency ; efficiency ratio ; Heat losses ; Methods of prevention ; effect of incurred pressure ; single and double acting Engine ; High and low speed Engine ; multivalve Engines ; Compound Engines ; Triple and Quadruple Engines ; effect of condensing ; Throtling vs. Automatic cut-off ; influence of Superheat ; Binary-Vapor Engines ; Steam Turbines ; Classification ; General theory ; types of turbine ; their theories ; Governors ; nozzles ; design of nozzles ; velocity diagram. *	

HARVARD UNIVERSITY U. S. A.

First year's work

BY

NARENDRA NATH SEN (*of the National Council of Education, Bengal.*)

Æsthetics.—(half course)

1. Readings:
   A. Required:
      1. Aristotle's Poetics ... 110P. (whole)
      2. Croce's Æsthetic ... 350P. (whole)
      3. Tolstoi's What is Art? 250P. (whole)
      4. Taine's Lectures on Art 2 vols: ... 900P. (whole)
   B. Recommended.
      1. Santyana's ... ... Sense of Beauty
      2. ,, ... Reason in art
      3. Runach's ... ... Apollo
      4. Plato's ... ... Opinion of art ... in his works.

II. Lectures by Prof. Santyana

III. Theses
   1. Nature of art after Aristotle) ... 15P.
   2. Nature of Beauty (criticism of Croce ... 15P.
   3. Ethics and art (criticesm of Tolstoi) ... 16P.

Experimental Psychology: (half course)

I. Readings:
   Meyer's Experimental Psychology 2 vols;
   Titchener ,, (selections)
   James Principles (selections)

II. Lectures by Dr. Langfeld.
   Laboratory week (6 hrs. per week on the average)

III. Thesis.
   Multiple Personality ... 46P.

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,, Psychology of suggestion.
Myer Human personality.
Ribot—diseases of personality.
Prince—Dissociation of persons.
Bruce—Riddle of person.
Binet—Alternations.

Education: (half course.)

I. Readings:
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Bolton's ,, ,, ,,
Hanus Educational Aims.
Eliot University administration.
Birdseye reorganization of our Colleges.
Hall's Educational problems (selections).
,, Adolescence (selections).
Sully—Studies of childhood (selections).
Kirkpatrick Fundamentals of child study.
Hall—Aspects of child study and education.
James—Talks to teacher.
Ministerberg—Psychology and teacher.
Educational Review (Vol. I—XXV). selected articles.
School Review (Vol I-IX) selected articles.
Courses of studies in various high schools.
Reports of Educational Commissions, etc.

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Dunbar's History and Theory of Banking.

II. Lectures by Prof. Taussig.

Ethics

I. Readings (1st half year)
Mill's Utilitarianism
Spencer's Data of Ethics
Martineau's Types of Ethical Theory
,, His Psychological Ethics
Green's Prolegomena to Ethics
Sidgwick's Lectures on Green and Spencer.
Fairbrother's Philosophy of Green.
Sidgwick's Methods of Ethics (*continued*).
Seth's Ethical Principles.
Palmer's Problem of Freedom.
,, Nature of Goodness.
Royce's Philosophy of Loyalty.
Perry's Moral Economy.

II. Lectures by Prof. Palmer

III. Theses:
   I. Ethics of Spencer ... 36 P.
   II. Ethics of Green .. 50 P.

French

Thier's—Bonaparte en Egypte
Hugo's—Selections from Les Miserables.
Valtaire's—Zadig,
Micrócgas, etc.
Selected stories of
Balzac, Merimee, Copée, Theuriet, Gautier.
Zola.

WHAT OUR STUDENTS ARE DOING ABROAD.

Guru Govind Singh Scholarships

It is hereby notified for the information of all the applicants for the above-named scholarships announced by Bhai Jowala Singh of Moorland, California, and to be available at the University of California, that the choice of the Scholarship Committee has fallen upon the following young men :—

1. Shivdev Singh, B. Sc., Government College, Lahore.

2. Gehisingh P. Hazari, B.A., The Ashram, Karachi.

3. Gobind Behari Lal, M.A., Kinari Bazar, Delhi.

3. C. S. M. Mahmood of Behar, Allahabad.

Substitutes for the first three in case any one of them cannot come.

4. S. B. Hudlikar, M.A., Fergusson College, Poona.

5. Nand Singh Sihra, Mech. Eng., Technical Institute, Bombay.

6. S. L. Sarma, B.A., B.L., Kurnool, Madras.

7. C. V. R. Kukootnoor, B. Sc., Ranade Industrial Institute, Bombay.

The University opens on the 15th of August and every successful candidate must reach Berkley *at the latest* on September 5th, 1912.

The original certificates of all unsuccessful candidates shall be returned as soon as possible.

A brilliant Bengali Engineering Graduate

Mr. Rashbehari Nandi, A. M. I. C. E., M. R. San. I. etc. successfully passed the examination in Railway Engineering at the University College, London. After this he was registered as a probationer at the Royal Institute of British Architects, and having passed the Int. Exam. of the said Institute was registered in June 1911, as a Stud. R. I. B. A. —a rare distinction. Mr. Nandi has also secured the highest diplomas of the Royal Sanitary Institute. Mr. Nandi left for England in 1909 after three years of study at the Sibpur Engineering College with Scholarships from the Sylhet Association and the Association for the Scientific and Industrial Ed. of Indians, Calcutta.

A successful Science graduate

Dr. Prafulla Chunder Mitter M. A., B. SC., a scholar of the Association for the Scientific and Industrial Education of Indians has passed the Ph. D. Examination of the Berlin University in Physical Science and Chemistry. This is the first instance of an Indian student obtaining this the highest degree in the most advanced University in Europe.

A Cambridge success

Mr. Birendra Kumar Basu B. A. (Cal and Cantab), son of Mr. Manmatha Kumar Basu of Krishnagar has obtained a first class in the Economic Tripos Part II of Cambridge. He is the first Bengalee and the third Indian to get it. The other Indians being Mr. Subba Rao (1909) and Professor Coyaji of the Indian Educational Service (1910). He will appear at the ensuing I. C. S. Examination.

A successful Medical student

Mr. Sisir Chandra Chatterjee, the youngest brother of Rai Bahadur Sarat Chandra Chatterjee and Mr. A. C. Chatterjee, I. C. S., has passed in his final medical examination and has obtained the degree of M. B., C. M., at the University of Edinburgh.

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"A University that goes to the People."

Year after year students are flocking to the American Universities to prosecute their studies. Almost all the prominent Universities of this country are now filled up with Hindu Students. Though situated far away from both the coasts. Wisconsin can fairly boast with her thirteen Hindoo students. With her world-renowned professors and ever charming situation, Wisconsin now stands as one of the foremost Universities of this progressive country; and "forward Wisconsin" is ever progressing. But the fame of this university is due not only to her commendable staff and picturesque situation but also for her foundation of what is called the "Extension Division." The attention of the whole country has now turned to the wonderful work which this Division of the University is doing to turn the citizen of this country to an efficient and patriotic member of the state.

The aim of the Extension Division of the University of Wisconsin is what President Van Hise says, to create a "way for every man and woman in the state, who otherwise would not have an opportunity to gain an education."

There is a great delusion in the United States that good education is open to all. But the following statement will prove clearly how that idea is groundless. Statistics show that "while the country offers to all the same opportunities for an education, less than one per cent of the school enrolment ever finish a college course, less than 4 per cent graduate from high school, and less than 19 per cent. complete the elementary course up through eighth grade." Now the problem is: what would be done with the remaining 81 per cent. who are going to be citizens without having an even elementary education?

Wisconsin is ahead of all other states to lay hand upon this vital, though complex and difficult problem. It is Dean Louis E. Reber, an engineer by profession, who is making a striking success to carry the banner of education even to the humblest citizen of the state and to solve the long standing and much-hoped-for problem of educating the helpless 81 per cent of the people. Mr. Reber is the chief figure in the organisation of the Extension Division since 1907.

The work of the correspondence department of the Extension Division, which touches every individual of the state, is really wonderful. Students from distant parts of the state who have not the means but have the acute desire for study are securing their education only through correspondence with this Department. Nearly 2000 Students are on roll from the city of Milwakee[1] alone. The statistics of January 1,1912 show 7,988 students on the roll. The students are made up of all kinds of people having various degrees of knowledge. Many of them are shopmen. Employees also co-operate with this Division, because they know very well that if their shop-men are educated they are sure to profit more. They willingly allow time for instruction in the shop when an appointed Universlty teacher goes there to give occasional lectures. The time allowed varies from one hour in two weeks to half a day each week. The teacher has a special advantage to demostrate his lecture in the practical laboratory of the employer.

The result of this is bound to be good; and the employers are now eager to allow more time for the education of their employees. What an emulating sight when the factory lads leaving their places of work on the arrival of the travelling instructor, hurry up to receive instruction for an hour or two, to make up their correspondence—study work in another room of the factory!

There is no definite time fixed for the completion of a course. It depends upon the merit of the student. Some students can finish their required study in one year while, for the same work others may take 2 years. Some can devote more time to their education, others cannot. Relising these difficultics the Ex Div. has left the idea of fixed period for the completion of a course.

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1 Milwakee is a commercial town with 300,000 population on the Lake of Michigan. It is the largest town of the state.

Another department of the Div. is the "Package Library" Department. These little Libraries of the Extension Division are composed of Libraries and kinds of materials: newspapers, clippings, pamphlets, type-written articles, and Magazine articles. These are sent to any citizen, on his demand, and he has to pay only the postal charge. An individual can keep them for not more than three weeks. No requests are refused. If the library is not well equipped to meet a call, attempts are at once made to furnish it with up-to-date materials. Asking one of the officers of the dept. I heve come to know that the present calls are mainly for materials of Chinese uprising. The following figures (1910-11) will clearly show the extent of the work.

Number of Bulletins distributed	...	12790
„ „ Package Libraries lent	...	1925
„ „ Articles lent ...	...	77000
„ „ Localities assisted by Package Libraries	...	259
„ „ Subjects, assistance given	...	548

To keep the citizens in touch with world-movements, lecturers are often brought to different places. They lecture on different subjects and topics of general interest, contributing to a liberal education. It is worthy of note that a Bengalee student of the University has been appointed to lecture on India by the Department. These lectures broaden the minds of the citizens and help them to think eventually with a wider view. To quote Mr. Pellijohm, who is the Secretary of this dept., "These lecture courses, given as they are, by members of the faculty and by professional talent, appealing as they do to all classes of people, people of all ages and all grades of education, become a great avenue through which popular education and social progress are promoted."

Besides these there are various other departments to further the spread of education among the great mass of the people—such as the Dept. of General Information; Welfare department etc. Technical questions of all descriptions can be obtained from the General Information Dept. only jotting down a card to the mail box.

The Agricultural Dept. of the Ext. is really worth noting. The recent report shows, in 1910-11 its 136 farmer's institutions and 41 cooking schools were attended by about 118,000 farmers and their wives; that in the same year 1900 farmers attended the ten days farmer's course at the University and 85,000 the courses given in different places about the state."

It is impossible to explain the wonderful work which the Ex. Div. is doing. To understand the organization one must see it. This is the only University in the country which really "goes to the people." Thanks to Dean Reber and his helpers and thanks to President Van Hise who have bent their whole energy to make the organization more efficient and more democratic. India is surely in need of such organization. To educate the millions of her illiterate people and to turn them into responsible citizens this is the one of those organizations which we are looking for. Let Bengal lead.

HEMENDRA KISOR RAKSHIT.

[*Late of Sanihati National School, Dacca*].

The Charms of Poetry.

POETRY is the child of enthusiasm. There is a power in the harmonious association of sounds, capable of making the most pathetic appeals to the fancy, and of soothing the passions of the mostbarb arous savages. From the observations that modern writers have made in respect to the manners and customs of America, we are inclined to pronounce that man is born a poet. All the rites and ceremonies of religion have, from the earliest ages, been highly indebted to this art and the cultivation of the poetical talent has been always considered of the highest importance.

The poetical faculty is, in the main, a natural endowment, but there is much room for the industry of man. There are certain rules and instructions which if observed, are calculated to foster

true genius, to correct those crudities which are so often rampant in the works of uncultivated minds, and to bring more forcibly to their notice, those beauties which are peculiarly worthy of imitation and those faults which are sedulously to be avoided.

Everything that regards the study of poetical composition is to be valued not only for its own sake but also for the sake of the linguistic and generally intellectual discipline that it gives. There are few subjects on which there exists a wider difference of opinion than on the nature of poetical talent; few which present a more difficult task to the critic to pronounce a decided opinion upon.

The poetical faculty is a clear perception of whatever constitutes the beautiful and sublime in naturally a lively appreciation of and a keen relish for the beauties of natural objects united with a distinct and abstract conception of their functions in the economy of Nature. This faculty enables us to give eloquent expression to all our intense feelings, pleasurable or painful, in the simplest, most forcible and most direct way possible. It is principally this, which has rendered the reputation of the poets of antiquity so lasting among all nations capable of appreciating their merits.

The most striking difference between the writers of Greece and Rome, and those of England, modern Italy, France and Germany is this:—the former having had a new field, an untrodden soil to cultivate, abound in original fancy, unrivalled simplicity, and lofty conceptions; but among the latter, although the marks of genius are more feeble, a great correctness of style, and a more studied and artistic arrangement, in point of regularity and accuracy of cadence are conspicuous.

Unlike the poetical faculty, the capacity for the enjoyment of good poetry is one which everybody may successfully cultivate. Dull indeed, must be the soul, which vivid descriptions of Nature's beauties and sublimities cannot touch, in virtue of the susceptibility to sympathetic vibration with which all of us are more or less endowed. Those who are so lost in the dull and monotonous realities of life, as to kill this innate power, rob themselves not only of an essential and innocent portion of life's enjoyments but also of the means of getting themselves acquainted with the history of the aesthetic development of the human race. Such an acquaintance, if possessed, would enable us to contribute our quota towards the happiness of all those with whom we come in contact.

Nowhere perhaps is the elevating and ennobling influence of poetry more seen than when it is employed to stir the soul to its very depths, for the purpose of inculcating moral and religious truths. It is also an established fact that passionate and poetical appeals have frequently been capable of saving men from the vortex of ruin, while cool and argumentative reasoning and prosaic discourse have utterly failed of their object.

The perception of hidden or even possible beauties, the institution of bold and striking comparisons and contrasts, their expression by means of a vivid imagery and the employment of otherwise suggestive language also form part of the poet's exclusive domain. It, however, requires a highly developed critical faculty to distinguish the gold from the tinsel which consists in those wild crotchets and eccentricities which often pass for true imaginative flights.

T. M. SATCHIT.

Trivandrum.

Crown Quarto pp. 408

THE COLLEGIAN VOLUME I,

WITH AN INDEX.

(From October 1911 to March 1912.)

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ARTICLES AND CONTRIBUTIONS
SPECIALLY USEFUL TO STUDENTS

Restoration to Revolution—I.
(1660—1700.)

The whole of English literature between 1579, the year of the publication of *Shepherd's Calendar* and 1832, the year of Sir Walter Scott's death, is divided into three well-defined stages. The first, between 1579 and 1660, may be termed the Elizabethan Period or the age of Spenser, Shakespeare and Milton; the second, between 1660 and 1798, is called the Classical Period, when the moving spirits were Dryden, Pope and Johnson; the third, or that between 1798 and 1832 is called the Romantic Period, and is considered, by some, to be the richest period of English literature; at any rate it is the next richest to the Elizabethan Age. This last period is represented by Wordsworth, Scott and Shelley. This division is important and helps the student to form, in his mind, a clear outline of the history of English literature of about two centuries and a half.

In a series of previous essays, I have despatched the subject up the end of the year 1660, i.e., to the end of the Elizabethan Age. The next period viz., that beetween 1660 to 1798 is, as I have just mentioned, termed the Classical Age, in contradistinction with the succeeding Romantic Age. With the growing communication with the French, the Englishmen, at home, gradually imbibed the affected manners and style of writing of their over-fastidious brethren across the channel. Before putting in any word of mine, I think, I may quote Mr. Wyatt's exposition of the terms, 'Classic' and 'Romantic,' which would be particularly useful to students, desiring to learn the least about these terms, and the ages they label.

"A word of explanation is necessary, as to the selection of the terms 'classic,' 'correct,' 'romantic.' The 'classic' writers prided themselves on their imitation of the Greek and Latin (especially the latter) *classical* authors, whom they regarded as the ultimate authority in matters literary: hence they delighted to call their epoch 'the Augustan Age of English Literature. Their literary creed is concisely expressed by the critic Walsh, who had great influence on Pope, when he wrote to the latter in 1706: 'The best of the modern poets in all languages are those that have the nearest copied the ancients.' Nevertheless a much better word than 'classic' would be 'pseudoclassic.' Pope did not translate Homer from the Greek but from the Latin version and the English of Chapman. 'Already Dryden,' says Dr. A. W. Ward, 'When in the hot haste of his literary life, his better genius had found time to take counsel with itself, had recognised the truth that the French classical school was merely a French adaptation of classical rules—and supposed classical rules—into a code which was French rather than classical.' The term 'correct' again was applied by the classicists to themselves and their poetry. * * * Lastly, the term 'romantic' was first applied in its present literary sense by the 'romantics' of the early nineteenth century. Pope and the 'Augustans' had used the word in a depreciatory sense (as they also used the word 'Gothic'), to mean 'sentimental,' almost at times as a vague antithesis of 'classical'; their successors took the despised word, and applied it triumphantly to themselves and those with whom they claimed kinship, the Elizabethans."

The 'Classic' age is the result of the combined labours of Dryden, Pope and Johnson. Dryden laid the first brick, and advanced the work a little; Pope brought it to its attainable height for it, only to collapse with Johnson. The object of the present discourse is to follow the development of the literature during the *regime* of Dryden and his contemporaries.

The natural reaction of the *extravaganza* of the 'Elizabethan' age was evident even as soon as Shakespeare had withdrawn from the field. The 'Metaphysical' poets were the coming men and they went so much the other way about, that it required the weight of a man like Dryden or Pope to make the ballast. The unbridled manners of the 'Shakespearean' writers retired before the fastidious habits of the so-called 'Metaphysical'

School ; but this abnormal state settled with Dryden and Pope. The importation of French manners and customs at the restoration of Charles II, served to enhance the already visible effect of 'classicism.'

Edmund Waller[1] and Sir John Denham[2] have been described by competent critics as "founders of the 'classic' school". These two poets—almost strange figures in the 'history' of English literature,—have indeed the honour of being noticed and marked out by such a one as Dr. Johnson, who spoke of Denham as 'one of the fathers of English poetry.' This and other such laudatory remarks bestowed upon these poets are not altogether unwarranted ; for though little noticed, their works have really the polish, the uniformity, and the regularity, which are the 'wealth' of the 'classic' age.

Dryden[3] is certainly the brightest star in the constellation which contain many 'lesser lights.' Like Chaucer, "a great craftsman in English letters," he was, says a writer, "a man at first none too well equipped for his profession, but blessed with an open mind that could learn and did learn much ; a man who almost always got up from a piece of work wiser than he sat down to it ; who warmed to his work, though he never seems to bring inspiration to it, until he almost became inspired by it ; one who, though his lot might have been cast in happier times, made the most of his opportunities, and has left a record in the *history* of English poetry and prose that can never be effaced."

The literary career of Dryden has been divided into three periods—first, from the beginning to 1681, devoted to drama, of which the best are *The Indian Emperor* (1665), *The Conquest of Granada* (1670); second, from 1681 to 1688, is the most fruitful period of his career: here he produced *Absalom and Achitophel* (1681-1682), *Mac Flecknoe* (1682), *Religio Laici* (1682), *The Hind and the Panther* (1687); third, from 1689 to end, was taken up by miscellaneous writings, written to order, for the book-sellers: Eg., Translation from Juvenal, Persius and Virgil, *Alexander's Feast* (1697), *Fables* (1700).

Thus it will be seen that Dryden's literary activities spread into all the three departments of literature—Drama, Poety and Prose. Drama falls in his early days, poetry in the middle, and prose is his eternal glory—*i. e.*, of the whole of his literary life. In drama, Dryden's attempt tended towards substituting French models in the places of fine and extravagant 'romantics' of the 'Elizabethan' times. But he was not an out-and-out 'classicist' ; to a certain extent he kept up the earlier romantic spirit in his dramatic compositions. Dryden's part in the post-Restoration drama was, as it were, to faithfully represent the profligacy of the court. Tender emotions were unknown to him and in the delineation of characters, Dryden was a failure. In the then common forms of composition,—the Prologue and the Epilogue—he was particularly adept. In poetry, Dryden struck out a middle path between the overwhelming burst of Romanticism of the 'Elizabethan' age and the fine symmetry and rigid formalities belonging to his own times. His poems are marked by vigour, strength and majestic grandeur. In poetry alone, Dryden embraced a variety of subjects—satire, controversy, lyric and translation. Of his satires, *Absalom and Achitophel* (1681), *The Medal* (1681) and *Mac Flecknoe* are famous. The first is a series of portraits of Dryden's contemporaries ; the second is hurled against Shaftesbury ; and the third is a coarse, vulgar personal attack, which speaks prejudicially of our poet's catholicity. Dryden own idea of satire is expressed in his *Essay on Satire*—"How easy is it to call rogue and villain and that wittily. But how hard to make a man appear a fool, a blockhead, or a knave, without using any of those opprobrious terms." His controversial poems which are represented by *Religio Laici* (1682) and *The Hind and the Panther* (1687) are allegorical in outline. Of his lyrical poems, *Alexander's Feast* (1697) is the finest ; it celebrates the power of music over human feelings. Timothens plays and his performances on various instruments act variously upon the mind of the

1. 1605—1687.
2. 1615—1669.
3. 1631—1700.

victor—Alexander the Great. Dryden also translated verses from Juvenal, Persius, and Chaucer, which while reflecting spirit of the originals with all its freshness, still maintained the individuality of the translator. In prose, Dryden is a towering landmark; the style of prose which he introduced, is, to a great extent, what is in vogue even now. Dryden has been called by some as "the father of modern prose style" and certainly the appellation is not undeserved. While poetry has gone back to the spirit, which ran through the 'Elizabethans,' the prose still holds its own against this tendency. No ordinary genuineness and potency can accomplish this. In his *Essay on Dramatic Poesy*, Dryden speaks in defence of rhyming tragedies.

Around this glorious luminary congregated a number of "lesser lights." Samuel Butler[4] and Andrew Marvell[5] kept up the poetical flame; drama was in the hands of Sir William D'Avenant[6], Thomas Otway[7], William Congreve[8], and George Farquhar[9], while prose was represented by John Bunnyan[10], Earl of Clarendon,[11] Samuel Pepys[12], John Enclyn[13], Sir Roger L' Estrange[14], Sir Isaac Newton[15], Robert Boyle[16], John Ray[17], and John Locke[18]; Abraham Cowley, whose poems have been noticed in a former essay, was responsible for some portion of the post-Restoration prose

The well-known satirical work, *Hudibras* is the handiwork of Samuel Butler. Published in three instalments in 1663, 1664, and 1678, it attracted the attention of the reading public and went up to the notice of the King even: "Charles II with all his vices, could appreciate wit and learning. He carried about *Hudibras* in his pocket, praising and quoting it perpetually, until it became the fashionable rage of the Court." * Sir Hudibras, in co-operation with his Squire Ralpho, compaigns against the amusements of the common people. This is clearly hit on the conduct of the Rump Parliament. Historical personages have been pilloried and circumstances unmistakably hinted at. Butler is a wonderfully concise, and a thoroughly prolific writer. Many of his dicta and illustrations have run into proverbs of the language. "Many of Butler's couplets, into which truth and good sense are compressed with singular power and apparent carelessness, are often repeated by people who know nothing of the work from which they are taking for the temporary nature of the main subject and the obscurity of most of the allusions have so diminished its original attractions, that it cannot now be regarded as a popular composition." [1] Andrew Marvell, the assistant Latin Secretary to the Lord Protector, Cromwell, has not left us many pages. But the little he has given us is characteristic of his personality. A portion of his writings relate to the political state of his time, and these breathe the fragrance of sincerity, independence and straightforwardness, which are the exact reflex of what his political life actually had been. A critic [2] quotes from a sonnet of Wordsworth, an extract in which the great nineteenth century poet eulogises Sydney, Marvell, and Harrington [3] and makes these four lines basis of his high appreciation of Marvell: "Even in 1802,' says the critic, 'Andrew Marvell was still remembered as the "British Aristides," who when all men of distinction were receiving bribes from the enemies of England or misappropriating the public moneys, continued the noble traditions of our political life.' 'While he lived,' the critic goes on, 'he was regarded, by foe as well as friend, as a most powerful defender of persecuted religious sects, and soon after his death it became generally known that he had been the daring satirist who had exposed the corruption in Court and Parliament.' It has just been noticed that Marvell's bequest is not much and he was most unjustly ignored in the fine anthology—*Golden Treasury of Songs and Lyrics*—of Francis Turner Palgrave. The wrong has, however, been undone, when at the advice of Tennyson, five of Marvell's most exquisite poems, were put into the *Golden Treasury*. These are *A Nymph mourning the Death of her Fawn, The Horatian Ode, Thoughts in ta Garden, The Picture of little T. C. in a Prospec of Flowers,* and *Song of the Emigrants in Bermudas,* celebrated for their remarkably peculiar mode of expression and pleasant ideas. Marvell's satires claim a passing notice, if not a more careful observation: the principal of these are *Flecknoe*, and *The Character of Holland.* Though without any genuine excellence, these compositions are vigorous and effective and put, it may be said, many of the same class, on the way. It may be observed, by the way, that Dryden's 'Mac Flecknoe' owes its origin to Marvell's Flecknoe.

(*To be Continued.*)

AJAX.

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4. 1612—1680. *9.* 1678—1707. *14.* 1616—1704.
5. 1621—1678. *10.* 1628—1688. *15.* 1642—1727.
6. 1606—1668. *11.* 1609—1674. *16.* 1627—1691.
7. 1652—1685. *12.* 1633—1703. *17.* 1628—1705.
8. 1671—1729. *13.* 1620—1706. *18.* 1632—1704.

* Thompson.

[1] David Lister Richardson, of Hindu College, Calcutta, wellknown for his Shakespeare scholarship, and author of 'Literary leaves' etc.

[2] Edward Wright.

[3] "Great men have been amongst us, hands that penned
And tongues that uttered wisdom—better none,
The later Sydney, Marvell, Harrington,
Young Vane, and others who called Milton friend."

REVIEWS AND MINOR NOTICES.

Religion in Modern Light.

BY

PROF. CHARU CHANDRA SINHA M.A.

of the City College, Calcutta.

We must congratulate the author on affording such a valuable contribution to the religious literature of the time. The work embodies the substance of a course of lectures delivered to his pupils. The easy and bright style throughout and the clearness of exposition make the book at once attractive to the general reader and of inestimable importance to the special student. The arguments usually employed in the time-honoured controversies in the idea of Being with its nature, existence and attributes are marshalled with much vigour and ability. The second part of the book is highly useful devoted as it is to the solution of difficulties against the fundamental truths of Natural Theology. Here most of the current difficulties are handled in a manner which evinces on the part of its author great powers of analysis and discrimination with the most profound and varied knowledge of philosophical literature, ancient and modern. In this part the author's aim has been to give in a convenient form the substance of the views held by the best authorities and to play the intermediary between the reader and the more recondite works on the subject. In this we believe he has admirably succeeded. The book is divided into three parts: the first deals with "The Philosophy of Religion," the second with "Science and Philosophy" and the third with "The belief in God." The scrupulous moderation and the total absence of controversial bitterness render this book acceptable even to those who differ most widely from the author's own conclusion. The first two portions first appeared in these columns.

Messrs. BELL'S new Publications.

Borchardt & Perrott's Geometry for Schools—Vols I-IV. Although prepared to suit the Board of Education Syllabus, it can be very well recommended for our Matriculation students. The Theorems are scientifically classed, the logical sequence being kept throughout. The feature of the book is that the examples are taken from recent Examination papers *e. g.* Cambridge Local. The price is 3*s.* 6*d.*

Allsopp's Introd. to English Industrial History (2*s.*)—A really interesting, simple and suggestive introduction to industrial and economic history. The other text-books on the subject being too expensive, as well as far too learned and academic this little book will stimulate the student to take up earnestly the study of this subject and tempt them to read the more advanced books on the subject.

Winbolt's American Independence and French Revolution (1*s. net*)—forms a volume of Messrs Bell's excellent series of English History Source Books. It will be very useful to students of history. The author has taken pains to collect materials from official papers.

Baker's Calculus for Beginners (3*s.*)—provides an easy introduction to the calculus and makes the students familiar with its ideas and methods within a limited range. Mr. Baker leads the learner on judiciously to the insight and practice which alone makes this elaborate section of mathematics accessible to the average mind.

Messrs Jack's new Publications.

Botany by Marie Stopes D. Sc. (Lond), PH. D (Mun), *Dante* by A G Howell, and *Shakespeare* by C. H. Hereford M. A. Litt D. (Cantab),—of the People's Book Series. The object is to encourage those to whom the subject is new to proceed to a closer acquaintance. The book on *Shakespeare* seeks to single out in the record of his life and work what appears most vital to our understanding of both. In dealing with separate plays attention has been concentrated upon cardinal situations and characters.

Messrs Coopers' (Bombay) Publications.

Simple Essays by Macmillan (R 1/4)—No new introduction is necessary to the Indian student. It is already very popular with the teachers and students alike. It is the best of its kind and is indispensable to every matriculation student. It helps the direct method of teaching English composition and essay writing.

Mr. Wren's Book in English Composition—Another excellent addition to Messrs Coopers' English Composition Series. The main feature of the book is that it is written on approved modern lines for the special use of Indian boys. Every beginner should have a copy of it. The main subjects which make the book useful are Letter-writing, Essay-writing, and Paraphrasing.

Cowper's Task—Professor Barrett is already too well known to Indian students. His annotations are scholarly such as to enable the student to thoroughly master the poem.

School Algebra by Prof. Wilkinson of Deccan College (R. 1/12)—Can be very well recommended for matriculation students of our Indian Universities.

SCIENCE NOTES AND OTHER INTERESTING ITEMS.

Chemical Researches by Dr. P. C. Ray and his students

At the meeting held in the Chemical Society's Rooms, Burlington House, Piccadilly, London W., on the 6th June, the President, Professor P. F. Frankland, took the chair. Seven papers were read, the first being by P. Ray, of Calcutta, and his pupils Messrs. N. R. Dhar and T. C. De, on the vapour density of ammonium nitrite.

Professor Ray was present to summarise his new researches, which continued the investigation of ammonium nitrite, isolated in the crystalline state some three years ago in the laboratory of the Presidency College, Calcutta. It was found that the solid sublimed at 33 degrees to 35 degrees with partial decomposition, but even at 40 degrees it was mostly undecomposed. With solutions, however, evaporation even at 35 degrees, resulted in partial conversion into the nitrate. In vacuum it was found that, while ammonium nitrite volatilised at 40 to 45 degrees ammonium nitrate did not sublime at 80 degrees. The nitrite did not volatilise in its entirety a portion being decomposed into nitrogen and water and a smaller proportion into nitric oxide, ammonia, and water. On placing ammonium nitrite in a Hoffman vacuum tube, jacketed with boiling methyl or ethyl alcohol, and using an alkaline sulphite to absorb the nitric oxide, some 20t o 25 per cent of the vapours consisted of pure ammonium nitrite. This had a vapour-density (mean of six determinations) of 33.5, against 32.0 calculated. A specimen of crystalline ammonium nitrite sublimed in vacuo was passed around and excited some considerable interest.

Dr. V. H. Veley, in welcoming Professor Ray, said he was an illustrious representative of a Great Aryan nation which had attained a high degree of civilisation and discovered many chemical processes when this country was but a dismal swamp. Professor Ray had shown, contrary to text book statements, that ammonium nitrite could be obtained in a stable crystalline condition and volatilised. He concluded by paying a warm tribute to Dr. Ray and his pupils for their valuable researches on ammonium and the amine nitrites. The chairman also extended on behalf of the Society, a hearty welcome to Professor Ray, endorsing Dr. Veley's remarks.

Electric Sleep

Sleep induced by electric currents, and anæsthesia produced and prolonged by the same means, have for some years past been the search of physiologists. Dr. Stephan Leduc, of Nantes, has been experimenting for six or seven years, and in 1907 published "Le Sommeil Electrique," in which he described his methods, apparatus, and results. The root of the method lies in applying electric currents to the brain, and even Leduc admitted that the bar to progress lay in the danger of applying electric currents of sufficient intensity to so delicate an organ. That has certainly been, and probably will be an obstacle for sometime to come; and one well-known English physiologist and authority on the brain has relinquished further experiment in the subject, because this difficulty has so profoundly impressed him. But M. Leduc is persistent, and, having proved that the cerebral substance is much more easily accessible to comparatively mild electric currents than was believed, he now re-effirms that the innocuous production of anæsthesia by electricity is merely a matter of method. The "Leduc current," as he calls it, is an intermittent one of low tension, and of constant direction; that is to say, a current which is continued for a definite time, then ceases, then begins again, and so on at perfectly regular intervals. Dr. Leduc's low galvanic current has a hundred intermissions a second. He says that by applying such a current from the loins to the forehead with gradually increasing strength perfect sleep can be produced in which all the functions of the higher nervous centres cease while the circulation and respiration are unimpaired. Dr. Leduc however is quite aware as his subsequent remarks make clear that the application of a current of too great a strength produces insensibitity of a kind which is dangerous and which if continued long enough differs only in the period of action from electrocution.

Synthetic Rubber

A goodly supply of india rubber stoppers and tubing is one of the great advantages which science teachers of to-day possess over their predecessors. But, unfortunately, rubber is perishable and expensive Any reduction in its cost will therefore be welcome to those in charge of laboratories. The recent success in synthetizing rubber will of course, have a wide effect; but we may for a moment refer to the gain in our own little sphere of action, where the substitution of india-rubber for cork or glass effects a great saving of time. The first announcement of the discovery was made by Prof. Harries of Germany, but it then transpired that an English patent had been taken out three months previously. Briefly the English process is as follows: (1) starch is obtained at less than 1d. per pound (2) by fermentation of the starch fused oil is made by the process invented by Fernbach (Pasteur Institute), (3) a cheap method of obtaining isoprene from the alcohol was found by Dr. Matthews, (4) isoprene is converted into rubber by the action of sodium. In July 1910 Dr. Matthews left some metallic sodium in contact with isoprene, and on returning in September found a solid mass of rubber. The value of a long summer holiday is clearly vindicated—especially for scientific workers.

SPORTING

UNIVERSITY CRICKET MATCH. (ENGLAND.)
Cambridge University defeated Oxford University in the annual cricket match by three wickets.

INDIAN FOOTBALL ASSOCIATION.—Challenge Shield Tournament. Results at a glance :—

FIRST ROUND.—Sova Bazar beat Measurers (disqualified). Rangers beat Moslems (scratched).

SECOND ROUND.—Dalhousie beat Chinsurah Town (scratched). East Yorks beat Sibpur College 2-1. Royal Irish Rifles beat E. I. R. Asansol 3-0 Sova Bazar beat Chinsurah Sp, 0-0,1-0. Calcutta beat Mohan Bagan (holders) 2-1. Customs beat British United 2-0. Middlesex beat Y. M. C. A. 1-0. Black Watch beat Rangers 2-0.

THIRD ROUND.—East Yorks beat Dalhousie 2-0. Royal Irish Rifles beat Sova Bazar 3-0. Calcutta beat Customs 1-0. Black Watch beat Middlesex 1-0.

SEMI FINALS. Royal Irish Rifles beat East Yorks 5-1. Black Watch beat Calcutta 2-1. FINAL Royal Irish Rifles beat Black Watch 1-0.

	List of Winners		Entries.
1893	Royal Irish	...	13
1894	Royal Irish	...	15
1895	Royal Welsh Fusiliers	...	11
1896	Calcutta F. C.	...	12
1897	Dalhousie F. C.	...	13
1898	Gloucesters	...	11
1899	South Lancashire	...	14
1900	Calcutta F.C.	...	13
1901	Royal Irish	...	14
1902	93rd Highlanders	...	13
1903	Calcutta F. C.	...	11
1904	Calcutta F. C.	...	12
1905	Dalhousie F. C	...	12
1906	Calcutta F. C.	...	11
1907	H. L. I.	...	15
1908	Gordons	...	15
1909	Gordons	...	11
1910	Gordons	...	14
1911	Mohan Bagan	...	21
1912	Royal Irish Rifles	...	18

ELLIOTT SHIELD. TIES 1913.

First Round. 1.—Sibpur College vs. Presidency College (Z). 2.—Campbell School vs. Medical Colleges (Y). 3.—Kalighat School vs. Presidency College (II). 4.—Madrasa College vs. Hooghli College. 5.—L. M. S. College vs. Bishops' College. 6.—St. Xaviers' College vs. Medical College. 7.—Scottish Churches College vs. Metropolitan. Second Round. A.—Winners of 4 vs. Winners of 1. Winners of 6 vs. Winners of 7. C.—Winners of 2 vs. Winners of 5. D.—Winners of 3 vs. Bangabasi College. Semi-Finals. X.—Winners of A vs. Winners of B. Y.—Winners of C. vs. Winners of D. Final. Winners of X vs. Winners of Y.

CUTTINGS

Diet in Schools.—II

(Continued from page 215)

Dr. Hutchison, who followed him as opener of discussion was an admirable interpreter and there was no mistaking his meaning. He insisted on the extreme difficulty of producing a healthy growing child on a vegetarian basis. It implied a bulky, and therefore indigestible diet. He had little faith in scientific standards of calories proteins &c. The safe rule was to provide a liberal table of mixed diet and trust to the healthy appetite of the child. "Pour avoir assez il faut avoir trop." Against over-feeding at this age Nature provided sufficient remedies. As to the bearing of diet on intellectual efficiency little need be said. If the whole body were well nourished the brain would take care of itself. Most of brain substance was laid down before school age, and brain work made little demand on body weight Special brain foods were the invention of quacks. Digestibility was of more importance in the composition of foods. The bearing of diet on moral efficiency raised the question of the physical basis of character. Except in the case of active virtues, such as physical courage and energy, no constant relation could be traced between morals and physique. We read that when Kean was playing a tyrant he used to feed on pork, but some of the most bloodthirsty,—savage nations were vegetarians. The over-stimulating effects of meat at the time of puberty had been grossly exaggerated. His advice to teachers was : "Don't play about with the diet. Morals are best catered for by others than the cook."

Dr. Hutchison's challenge to the vegetarians was taken up by more than one speaker. Admiral Johnson asked how the two precepts could be reconciled—to enforce a meat diet and to trust to the appetite of children. Young children, if left to themselves, would never touch meat. Mr. Rollo Russell stated that of all emigrants who ever landed in Canada the Doukhobors, strict vegetarians, had the healthiest children ; and he asked, with bitter sarcasm, whether, as the Conference had suggested that children should dig their potatoes before eating them, they should likewise kill their beef and mutton. Dr. Eger seemed

to hit the *juste melieu*. In his experience some 60 to 70 pet cent. of children throve equally on either diet; of the remainder about an equal number required a meat or a vegetable diet.

Mrs. Burn, sometimes Medical officer in Wicombe Abbey School, advocated the teaching of elementary physiology and personal hygiene as a compulsory part of every school curricula. The subject is too thorny to be here discussed. We can only call attention to the elaborate syllabus of lessons appended to the paper. Dr Reddie followed with a paper on "Abbotsholme," as a realization of the perfect combination of health, theory, and practice. England is the worst governed of the leading States of the world, and has except for enlightened individuals, no theory. Germany has theory galore, but neglects practice. "I have listened to a lecture on school hygiene in a room where asphyxiation was imminent." At Abbotsholme: 'The ample windows let in floods of light, and if the summer sun blaze too fiercely, a silken screen across mitigatest he glare. From every window he [the schoolboy] looks out on lovely scenery. The glistening floors reveal their weekly bath of fragrant turpentine, whose vapour destroys the dealy bacteria and perfumes agreeably the air." From every time and place the pupil finds "beautifully printed and framed 'Rules,' perfectly conceived and perfectly expressed, so that error is impossible"; contrived a double debt to pay, to teach him "how to write and use our mother tongue and also the art of legislation."

Abbotsholme is a unique school, and, as we read Dr. Reddies panegyric, we exclaim with Moore's Peri:

And, oh! if there be an Elysium on earth,
It is this, it is this!

But when he proceeds to tell us how our schools may be transformed into Abbotsholmes, we are not much the wiser. His conclusions do not tally with his premises. "Medicine should cease to be a private occupation and should become a public service. Every schoolmaster should be trained to study first and foremost the laws of health." But we were told at starting that "no school in England can have much chance unless it eludes the interference of public mismanagement by being a separate imperium". By good fortune this autonomy we possess. "No bungling sanitary authority can touch us." We must leave it to Mr. Lloyd George to find *le mot de l'enigme* and reconcile the apparent antinomies.

(*To be continued.*)

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6. Lala Lajpat Rai, The Renowned patriot of the Panjab:—"I have used Kuntal Kaumudi Taila. It is an excellent hair oil finely scented and cooling."
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VOL II **THE COLLEGIAN** No.

All-India Journal of Education

CALCUTTA, SATURDAY, AUGUST 17, 1912

The Hon'ble Dr Devaprasad Sarbadhicaury in defence of Indian Education, at the Empire Universities Congress

Sir Frederick Lugard late Chancellor of the Hongkong University read a paper at the Congress of the Universities of the Empire held in London in which he extolled the methods of manning the staff almost entirely by Europeans and deprecated the methods of training in India as tending to unrest and irreligion In a congress like this in which in the words of Lord Rosebery the delegates "were all joining hands and singing as it were, 'Auld Lang Syne' at a meeting which represented every part and region of this world wide Empire, where there was the best kind of Imperial feeling viz., that of co operation in high and noble tasks with the common sympathy affection and energy which would characterise the members of an immense family in such a congress it is regrettable that sweeping indictments as in Sir Frederick's paper about things which he appears to know little and has some serious misapprehension should have been pronounced at all We shall always be glad, as Dr Sarbadhikary had expressed, to profit by sympathetic suggestions but we resent captious, unwarranted and uninformed criticisms that seek to make out that University Education is fostering political unrest or irreligion

In reply to Sir Frederick Lugard's assertion that the English youth is better for having traditions of 1900 years of Christian life behind him Dr Sarbadhikary said

"We are particularly proud because lofty ethical and religious ideals had their origin in the East and found ready and continued acceptance many thousand years ago and because the East presented Europe with the *Prince of*

two thousand years ago to the abounding and abiding benefit of Asia and Europe alike. But it is worse than a mistake to suggest that because tradition of these 1900 years of Christian life is not behind the back of the Mahomedan and Hindu graduate and under-graduate, his ethical and religious ideas must be naturally low History and tradition teach the contrary as this Congress need hardly be reminded The Vedas, the Upanishads, the Tantras, Purans, Ramayan and Mahabharat and later commentaries lay down elaborate rules about education discipline, life, character and morals, which have enabled the Hindu to outlive the comparatively modern civilizations of Assyria, Babylonia, Egypt, Chaldea, Greece and Rome and from the time of Panchala Parishad downwards through the long vista of university life at its best in seats of learning like Taxila, Bikash, Nalanda, Vijayanagore, Mithila and Navadwip the lamp was kept burning and during the time of transition from the Mahomedan to the British period of our history it burned no doubt low Ideals also proportionately fell off but the culture of the pre-university days and the days that follow has changed it all Not to know or admit that when Imperial problems like these are before this Imperial Congress would be worse than excusable"

Speaking of Secular Education at the Indian Universities Dr Subrahmanyam goes on to say

"In spite of the difficulty attending on all higher education the Indian Vice Chancellor year after year charges our graduates ever in life and conversation to prove themselves worthy of the degree conferred And they do their best to live up to the charge Those who know India and have a well balanced mind and instinct of justice would be willing and eloquent testimony as to the purity and ability of even the lowest paid of our public servants recruited from our Indian and Anglo-Indian and to the loftiness of professional ideal and loyalty In the absence of direct religious teaching ethical and historical methods are invariably applied to study of the ancient literature and philosophy of India on sound critical lines, but by easy methods, which our universities are doing all they can to encourage is expected considerably to assist in revival and if possible, improvement of the older ideals And a further gain we claim has been made. By bringing home to the scholars the lofty ideal immortal truths and imperishable beauties of the Upanishads, by making them mould life and conduct according to the glorious doctrines of Nishkama Dharma, of which but a feeble echo was found in Kants' categorical imperative' this great work of revival ought to be accentuated and accelerated The newer ideals of the West which modern university teaching help in absorbing, those of self-defence self-assertion and political advantages, have their place within judicious bounds. Political economy and political science are teaching the just proportion of things material. History biography and the modern sciences of English literature, the rich heritage of the Empire that more than anything else will build up its oneness are judiciously laid under contribution. Slowly and steadily an atmosphere of modern university and academic life is being created on Western lines, without unduly sacrificing the East. Athletic sport, college unions, university institutes are quite a feature and manliness and grit are more and more in evidence though there is considerable room for growth The teacher's life and example are deemed a strong element in the work It is the anxious care of the authorities to maintain strict discipline Through our training colleges and normal schools, still too few in number, we are trying to build up a body of teachers that would have the capacity and willingness of carrying on this great work We get a considerable volume of assistance from graduates of European universities employed both in Government and missionary institutions though their capacity and calibre is not always equal to those of the giants of old whose names are cherished as by household words in India In this direction as well as in the distribution of assistance and aid and even hand of fellowship to those that come here to be ready for their work in India we have to make a strong appeal to the rich But here universities whose representatives here are many and earnest"

* * *

Education of the Domiciled Community Conference at Simla

The Conference held its sittings at Simla during the first week of July 1912 At the opening of the Conference Sir Harcourt Butler said I want to correct a misapprehension that this Conference was the equal of the Provincial committees appointed or formed in the West It was not so It was the sequel and complement of the conference over which he had the honor to preside at Allahabad in February 1911 Indian Education must be handled whole The British Government in India was equally interested in uplifting all classes of the population, no matter what their race or creed might be Having held a conference about the education of Indian children, it was only natural that he should hold a further conference about the education of the children of the domiciled community He said he wished also to correct an impression which from time to time found voice, that the Government of India and the Local Governments were

indifferent to the education of the domiciled community. Nothing was further from the fact. The expenditure from public funds had more than doubled It was now 20½ lakhs out of a total expenditure of domiciled education of 62¹ lakhs

Several resolutions were passed of which some of the most important ones are

(1) a separate University Arts College should be instituted either affiliated if possible to a Western University or self-contained and conferring its own degrees (2) If this be found to be impracticable there be added in connection with at least one of the training colleges for teachers Arts and Science graduate courses both for the advantage of the candidates for the teaching diploma and also for such other Anglo Indian students as desire to take advantage of them and the college be affiliated to a recognised University (3) That good hostels for the members of the domiciled community be erected in connection with the existing colleges where such are required (4) One real obstacle to the spread of higher education among the domiciled community is the belief common among them that avenues of employment formerly open have been closed to them In the interests of the spread of higher education Government should be asked to institute an enquiry as to whether the belief in question is well-founded and if this is shown to be the case steps should be taken to provide for the remedy

We do not quite understand the meaning of the last resolution nowhere we think are the avenues of employment formerly open have been closed to the Domiciled community rather we find in almost every case that with the same qualifications *preference is given to Europeans and Eurasians*

We cannot but quote the following from Sir Harcourt Butler's closing speech in which he exhorts self-help

"I cannot say what will be the fate of all the Resolutions which you have passed, but I can say this that they will be very sympathetically regarded by the Government of India in the light of the advice which we receive from Local Governments, and with regard to the financial position But if the Government of India and the Local Governments do their part, you, the representatives and exponents of private effort, must do your part, and the community itself must do its part. It has always been your proud determination to rely on the principle of self help. You will not, I am well assured, relax your efforts. In the course of the proceedings, I was asked whether the policy of Government in respect to private enterprise had changed I replied emphatically in the negative. It is inevitable It is the desire of you all that the Government should undertake certain functions and services which it alone can perform satisfactorily, but we must rely in the main upon private enterprise and when I reflect upon what you have done under the difficulties of existing conditions when I see the enthusiasm and devotion which animates you, I confess that my imagination is fired by the prospect of the future possibilities under conditions which we may reasonably hope to be more favourable."

* *

Mahomedan Educational Conference South India

The Mahomedan Educational Conference held its sittings at Bangalore during the last days of July 1912. Mr Justice Abdur Rahim presided

Resolution were adopted (1) requesting the Government of Madras to establish in select Muslim centres secondary schools on the residential system (2) separate allotment from Provincial revenues for the improvement of Mahomedan education (3) requesting the Government of the Maharajah of Mysore to provide Mahomedan rural schools (b) to offer a liberal grant in aid to Mahomedan night schools (c) to grant scholarships to Muslman widows pursuing education (d) to award more Mahomedan scholarships out of State funds, (e) to provide hostel for Mahomedans (f) to make arrangements for the teaching of Persian and of Urdu translation in all Government schools and colleges

It was also resolved that all indigenous Maktab and Koran schools in the Presidency should be brought under departmental supervision that a body of lecturers be organised to popularise education to the community and that British and Mysore Governments be asked to introduce compulsory education in Bangalore station and Mysore State

* * *

Sind Education

The Government of India, it is understood, have accepted the principle of the Sind Mahomedan Education Cess Bill, a measure which is now pending before the Bombay Legislative Council and if

[illegible] development of Moslem Education in Sind.

* * *

Khairpur Scholarships

Mr. Younghusband's scheme of Khairpur scholarships is now complete. A sum of Rs. 60,000 is available for the encouragement of higher education among the Musalman population of Sind by means of scholarships, thanks to the munificence of His Highness the Mir of Khairpur who thus does honour to the memory of his late father. The scholarships will ordinarily be tenable for four years and will be worth from Rs. 240 to Rs. 300 per annum each.

* * *

The Royal Society London 250th Anniversary

The celebration of the 250 Anniversary of the Royal Society took place on Tuesday, July 16th. There was a commemorative service in Westminister Abbey, a formal reception of delegates and presentation of Addresses, and a Banquet in the Guildhall.

The Anniversary celebration is being attended by some 300 delegates from the British Isles, the Dominions beyond the Seas, and foreign countries. These gentlemen were received in the afternoon in the Great Library of the Royal Society, Barlington House. Sir Archibald Geikie, the President, was accompanied by Lord Rayleigh, Past-President; Sir A. B. Kempe, Treasurer; Sir Joseph Larmor and Sir J. R. Bradford, Secretaries; Sir W. Crookes Foreign Secretary; and Mr. Robert Harrison, Assistant Secretary. The majority of the delegates wore official robes or academic dress; among the scarlet doctor's gowns were prominent the crimson and gold cloaks of some of the German professors, the claret and gold uniform, with brown fur cloak, of an Hungarian delegate and the silk robes and turbans of the Indian representatives.

* * *

A Bengali Poet Honoured

Mr. Rabindranath Tagore, the well-known Bengali poet, who is now in London was entertained at the Trocadero Restaurant by leading literary men. Mr. Yeates, the Irish poet who was in the chair paid that his knowledge of Mr. Tagore's work had come only through a small collection chiefly of religious poems rendered by the poet himself into literal English prose. Even in this form they seemed to him to be beyond price and the reading of them had been a unique event in his emotional life. Seeking for something with which to compare them he had been able to think of Thomas a Kempis alone; but whereas the author of the "Imitation of Christ" was oppressed at every moment by the sense of sin and was labouring always to shut out the beauty of nature as the enemy of devotion the Indian poet dwelt ever in the thought of the love of God and saw its expression in the beauty of all simple and natural things. Mr. Yeates finished by reading with wonderful effect three of Mr. Tagore's short poems from Mss. translation, one in which God is addressed as He passes by, one in which a Young Indian girl is pictured at the Feast of lamps and another touching the meaning of Death. "For the like of that" said Mr. Yeates as he closed on a beautiful simile of the maternal breast "we must go to the psalmists of ancient Israel and to the Singers of the middle ages in Europe."

* * *

The Late Kristo Das Pal 28th Anniversary

The 28th Kristo Das Pal anniversary meeting was held at the Overtoun Hall on the 24th July 1912. The Maharaja of Burdwan took the chair. Babu Surendranath Banerjee in an admirable speech dwelt on the teachings and examples of this great life. He said "Sir, I am partial to hero-worship. A nation that does not know how to honour its heroes does not deserve them and will not have them. .....Admiration is an uplifting moral process. To sit at the feet of our great men, to hold communion with them, to feel genuine admiration for them is to make an effort—it may be an unconscious effort, but none the less a distinct effort—to elevate ourselves from our present grovelling surroundings to a higher and diviner atmosphere fragrant with the breath of these immortal spirits".



CALCUTTA UNIVERSITY

Senate Meeting

A meeting of the Senate of the Calcutta University was held on 27th July at the Senate House College Square Sir Asutosh Mookerjee Vice Chancellor presided and there was a fair attendance of Fellows

University lecturers

The Senate was asked to accept the recommendation of the Syndicate to move the Governor General in Council to accord their sanction for the appointment of the undermentioned gentlemen as University Lecturers in the subject or subjects noted against their names of each for a term of two years with effect from the session 1912 13 —

Mr M A Hafeez I A (Oxon) Barrister at Law and Mr Satischandra Ray M A Political Economy and Political Philosophy Shamsul Ulama Shaikh Muhmud Gilani Arabic and Persian Mr Zahiduz Rahim Zahid Suhrawardy M A B L Persian Aga Kazim Shirazi Persian Dr A M Suhrawardy M A Ph D D Litt Arabic and Mr Praphullachandra Ghose M A English

'A Teaching University'

In placing the resolution before the Senate Sir Asutosh made an interesting statement in regard to the arrangements made towards converting the University into a teaching body He said as soon as this motion is carried provision will have been made for Post-Graduate study in English Sanskrit Pali Arabic, Persian, Mental and Moral Philosophy History, Economics and Mathematics In so far as English is concerned we have been able to secure the services of five lecturers who deliver 30 lectures a week. In Sanskrit, we may say without exaggeration that we have quite an army of competent lecturers including some of the most distinguished graduates of the University and many of the most distinguished Pandits available in this country In Arabic and Persian, we have been able to secure the services of four Lecturers of great distinction In Mental and Moral Philosophy we have a strong staff of five Lecturers who will give 25 lectures a week In History, we are able to cover practically the whole course, with a staff of nine Lecturers of whom six will deliver special courses on selected topics In Economics we shall have in addition to the lectures by the Minto Professor special courses Finally in, Pure Mathematics we have four Lecturers of considerable distinction It is therefore not to much to say that the University has now taken a definite step towards the realisation of its function as teaching University I venture to express the hope that the University may now rightly be called a teaching University teaching not merely through its affiliated Colleges but directly through the agency of Lecturers appointed by the University

The resolution was carried with acclamation

Tagore Law Professor

The Senate accepted the recommendation of the Faculty of Law which had been adopted by the Syndicate and appointed Babu Samatul Chandra Dutta M A B L as Tagore Law Professor and that the subject of his lectures will be Law of Compulsory Sales in British India

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MADRAS UNIVERSITY.

Matric Exam 1914

In accordance with Regulation 176 the following text books in English of which a detailed knowledge will *not* be required are prescribed for the above examination —

(1) Hawthorne Tanglewood Tales (Longmans, Green & Co)

(2) Maryat Tales of the New Forest (Bell & Sons)

other text-books for that examination, including those of which a detailed knowledge will be required, will be published at the beginning of 1913.

University Lectures

With reference to the University Lectures under Regulation 394 sanctioned by the Senate for the academic year 1912-13 it is hereby notified that the course of 20 lectures on "The Elizabethan Drama with special reference to set plays" to be delivered by Mr. J. H Mackintosh, M A will be delivered in the Presidency College during the first term of the year commencing on Thursday the 11th July 1912

The days and hours for the delivery of each lecture will be Tuesday 2 to 3 P M and Thursdays 3 to 4 P M

The lectures will be open to any student who is taking an Honours Course in any College affiliated to the University on the recommendation of his College authorities No fee will be charged for attending the course of lectures but a student shall not attend the course till he has paid the usual fee to his College for the term

The lectures will also be open to graduates of the University who wish to engage in post graduate study and research on payment to the University of Rs. 50 per term and with the sanction of the lecturer appointed

NOTE.—Post-graduate students who are members of a college will not be required to pay this fee.

BOMBAY UNIVERSITY.

Exam Dates

It is notified in the Government of Bombay Gazette that the day fixed by Regulations 32 and 41 in Medicine for the commencement of the ensuing Preliminary Scientific and Intermediate M B B S Examinations being a public holiday, the Syndicate have, in accordance with General Regulation No. 152 fixed Thursday, the 19th September 1912, as the day for the commencement of both the said Examinations

On account of the Divali holidays the Syndicate have fixed Wednesday, the 10th October 1912, as the day for the commencement of the ensuing Intermediate Arts, Intermediate Science, F. E. and S. E. Examinations in lieu of the day fixed by Regulations 18 and 37 in Arts and Regulations 57 and 65 in Engineering.

It is also notified that the ensuing Previous Examination will commence on the day fixed by Regulation 11 in Arts, viz, Monday, the 4th November

The following subject has been selected by the Syndicate for competitive essays in Gujarati for the Naraven Mahadeo Permanand Prize for 1913 "The influence of Swami Narayan and his sect on the religious and social conditions of Guzerat

PUNJAB UNIVERSITY

Inter Art Results

We give tabulated list of candidates passed from each College mentioning the no of candidates appeared from each College

1 Hindu College Delhi 7 out of 22
2 Mission College Delhi 25 out of 35
3 Khalsa College Amritsar 3 out of 75
4 Mohendra College Patiala 38 out of 56
5 Mission College Srinagar 17 out of 57
6 Mission College Rawalpindi 1 out of 16
7 Mission College Peshawar 13 out of 18
8 Jammu College 9 out of 16
9 Sanatan College 15 out of 29
10 D A V College Lahore—121 out of 21
11 Dyal Singh College Lahore 6 out of 1-
12 Mission College Lahore—39 out of 74
13 Government College Lahore 29 out of 44
14 Islamia College Lahore 23 out of 73
15 Oriental College Lahore 1 out of 2
16 Bhawalpur College—8 out of 13
17 Kapurthala College 18 out of 30
Private students 35 out of 97

ALLAHABAD UNIVERSITY

University Senate Hall opened by The Chancellor Sir John Hewett

His Honour Sir John Hewett, Chancellor of the Allahabad University, performed the opening ceremony of the Senate Hall at 8, Church Road. On the evening of the 3rd instant, in the presence of a large and distinguished gathering Dr. Sunder Lal Vice-Chancellor in requesting His Honour to declare the Hall open gave a history of the work and of the growth of

the University. The Lieutenant-Governor in his address gave a brief educational retrospect and impressed on the University's attention the neglect of vernaculars in the High School and Collegiate education

His Honour said: The Local Government had recently occasion to get outside help to translate the Legislative Council proceedings for the vernacular Gazette. A number of educated men sent specimens almost all of which required extensive revision before they could be published

In connection with the scope of the University His Honour said he had asked the Government of India to sanction the proposal to affiliate the Cawnpore Agricultural College to the University. Reference was also made to the hostel system which His Honour said was peculiarly a satisfactory feature of the University life in the up country. In this connection he paid the missionaries in India themselves up a whole hearted tribute to promoting the welfare of the student community and the moulding of their character. Sir John Hewett dealt with the subject of teaching universities and said that a student had learned by establishing the University Law College and in connection with the recurring grant of Rs. 45,000 and non-recurring grant of Rs. 2 lakhs made by the Government of India a proposal has been made by the syndicate for the University chairs for Indian History Economics and Philology. His Honour is happy to state that the Senate did not commend Sanskrit to the Royal notice of the chair. He (Sir John) thought that did not exist in the Provinces any provincial historical and archeological survey.

Turning to the subject of the Calcutta Hall His Honour said that the Secretary of State had sanctioned lakhs of rupees and the work did credit to the engineer Rai Bahadur B. B. Chatterjee in direct charge Mr. Butler Superintending Engineer and its designer Sir Swinton Jacob.

In conclusion His Honour said the Senate Hall opened and hoped that the spirit of the Allahabad University which it will represent will remain worthy of its surroundings and of its high destiny. Sir John Hewett then left the hall and proceeded outside where he planted a symbolic banyan tree. The Vice-Chancellor was at Home after the ceremony. The building is a magnificent pile with a very spacious Senate Hall and other rooms built in the Saracenic style. The building of the University Law College and the University Library will shortly be proceeded with



and Schools.

Sir Thomas Holland on Sibpur College

The London correspondent of the "Englishman" writes: Sir Thomas Holland informed me that in connection with the enquiry of Sir Theodore Morison's Committee he recently examined more closely the results of the State Technical Scholarships system in Bengal, and he finds that the contrast between the results obtained for the students in Bengal and those trained at Sibpur and in the Colleges is even greater than he imagined. He has handed in detailed figures to the Indian Committee. As Sir Thomas mentioned at the Mimin Club dinner recently, Sibpur has been half starved by Government and in Parliament has been handicapped by being under the Education Department. He is not sure, however, whether the limitations have not been on the whole good for the soul of the institution.

He (the speaker) thought the authorities have had no money to spend on plant and apparatus said Sir Thomas Holland, before they could avoid the curse of the Indian Institutions of this country. He had heard many thoughtful men are, now for many years, convinced that the enormous sums of money spent on elaborate plant and machinery for our technical colleges have done no more than deceive the innocent parent who is on the look out for what he considers to be a practical training for his son. At Sibpur the students have been forced to make even the ordinary class room furniture. They built a very nice motor-launch for the use of the college and the plant purchased for the motor car class consisted of the broken

[illegible] of cars which had come to grief in [illegible] tourists between Calcutta and the Botanical Gardens! Because the place is not showy and because it has the disadvantage of being country-made, people in Bengal have not realised that it provides a better training for the Bengal youth than anything we can give in this country. Indeed, I am sure that here we shall soon realise the degenerating effects of our expensive technical colleges." These opinions from a practical educationist should be duly pondered by the Bengal authorities. They are most pertinent at a time when proposals are under consideration for great improvements at heavy cost in the laboratory and technical equipment of various Indian colleges.

Ananda Mohan College Mymensingh

The members of the Anandmohan College Council met on Sunday last at a meeting to consider the question of raising the college to the first grade status. They were unanimously of opinion that it should be raised and they resolved to submit an application, which was approved at the meeting, to the Director of Public Instruction. The probable initial cost was estimated at one lakh and five thousand rupees. The Council will use its efforts for raising half-a-lakh by public subscriptions and they have applied to the Government for the balance and also for raising the monthly grant from Rs. 600 to Rs. 1200. The whole educated community—Hindu and Mahommedan—are anxious for a first grade College.

Presidency College Calcutta

Pandit Prabhu Dutt Shastri of Lahore, the Government of India Oriental Languages Scholarship Holder, who graduated as Doctor of Philosophy in Germany has been appointed to the Indian Educational Service as Professor of Philosophy, Presidency College, Calcutta. He was officiating as Principal, Oriental College, Lahore.

The Cotton College Gauhati

The second ordinary meeting of the Hindu Students' Ethical and Religious Society was held today (28th July) at the Hindu Hostel. The permanent President Professor Vedantatirtha was in the chair. The meeting opened with a prayer which Professor Asutosh Chatterji, read from the eleventh chapter of the Gita. Commenting on the prayer the president invited the attention of the audience to the fact that devotion or *bhakti* is the only means of realizing God.

And that this devotion or भक्ति was not merely a subjective emotion. The concluding verse of the chapter defines the *bhakti* thus —

मत कर्म्म कृत मत परमा
मद्भक्त सङ्गवर्ज्जित ।
निर्वैर सर्व्वभूतेषु
य स मामेति पाण्डव ॥

We must do God's work we must help the needy and try to bring the kingdom of heaven upon earth. We must regard God as the supremely real and not as worldly power above. His. We must be free from attachment. We must avoid injury to all creatures. It is only thus *bhakti* can be realized. Then the president preached a sermon on the duties of students. He especially emphasised the virtue of early rising and duntiness and daily physical exercise. He laid a special stress on the virtue of obedience and asked the boys to regard all their work as God's work they must be भगवत कर्म्मकृत in the words of the Gita. The speaker concluded by drawing the attention of the students to the remarkable words of the Chancellor in his last convocation address —

Be true to your God true to your Emperor, true to your country and true to yourselves.

The Madras Presidency College

There is much that is interesting in the report of the working of the Government 'model' College in Madras, during the year 1911-12. This was the first year in which several important changes were introduced both in this College and in others. The strength of the institution rose from 538 in the second term of the previous year to 577 in the corresponding term of the year under report, due to the fact that,

as that was the last year in which the College gave instruction in the old B A, course, promotions and readmissions to the fourth year class were effected with more freedom than usual The addition of the third year class (honours) was, we are told, compensated for by a decrease in the third year class (pass) The Principal says he anticipates a reduction in the strength of the College during the current year—1912-13, to 523 which he thinks will not be much exceeded It is matter for deep regret that, though several new classes have been opened in the College owing to the introduction of new courses of study and though the staff has been considerably strengthened the number of students should be so arbitrarily limited

The following remarks of the Principal about the new scheme ought to interest those interested in Secondary education — In the case of a considerable number of applicants a brief scrutiny of their certificates showed that they were unfit for a University course After these have been set aside there still remained a sufficient number of eligible candidates from whom a satisfactory selection could be made In my opinion which I think is shared by those of the Professors who helped in the selection of students the school leaving certificate is of much more value than the Matriculation certificate or the mark list of the Matriculation Examination in determining whether a student is fit to take up one of the Intermediate courses of the University

The system of Inter collegiate lectures arranged with the Christian College worked well and there were eight of such lectures every week four at each College The Professor of History and Economics is gratified with the success the scheme of Honours has attained already He writes 'Nearly all the best students in fact joining the College for History elected to take up Honours a very hopeful sign for the future of these courses As considerable uncertainty prevailed as to the popularity of courses which entailed an additional year the response made by the students to the opportunities provided by the University has come as a surprise, I think, I may say to all Myself, I have always believed that Honours would "catch on" but I thought that some years might elapse before their advantages would be realized

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Jaffna College

The annual Prize Distribution at the Jaffna College came off on 25th July 1912 The Principal Rev G G Brown, B A B. D. presided and Mrs Brown distributed the prizes The Principal's report showed the progress of the College and, among various observations on the educational situation, called attention to the inefficient grounding in English on the part of many boys joining the College from the various feeder schools in the villages There was an interesting programme of songs and recitations gone through by the pupils, among which was a Prize Declamation by one of them Mr J M Hensman B A retired Principal of the Kumbakonam College Rev Dr T B Scott M D and Messrs V Coopillai Proctor S C and W Nile B A Advocate addressed the assembly on educational matters and congratulated the College on the excellent work done

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Simplified Spelling Society

A meeting of the South Indian Branch of the Simplified Spelling Society was held in the Presidency College Madras on Tuesday, 30th July Mr J W Middlemast was Principal of the College and Honorary Treasurer of the branch was in the chair The Honorary Secretary Mr Mark Hunter gave an account of what had already been done by the Branch to advance the movement for the simplification of English Spelling and read a number of letters from members of the Branch unable to attend expressing warm approval of the aims of the Society and wishing the Branch success On the proposition of Mr Middlemast, Mr W B Hunter Secretary and Treasurer of the Bank of Madras was unanimously elected President of this Branch It was further resolved that a Branch Committee should be formed consisting of seven members including the officers for Madras and one member to represent each centre that may be instituted in the mofussil Mr K B Ramanathan M A, B L Professor of English Pachayappa's College was elected a member of Committee for Madras and three gentlemen were elected mofussil members viz Mr I C H I M A Principal of the Maharajahs College Trivandrum to represent Travancore Mr J A Yates M A, Principal of the Government College Kumbakonam to represent Tanjore and Mr P T Srinivasa Iyengar M A Principal of the Vizagapatam College to represent Vizagapatam

OTHER EDUCATIONAL ADVANCES

THE MYSORE UNIVERSITY

The scheme of constituting a separate University for Mysore is now engaging the attention of the Committe formed for that purpose. The Committee consists of Messrs H V. Nanjundayya M A.M.L President, Professor G. R. Reddy M A of the Maharaja's College Mysore, Professor E P. Metcalfe M A. of the Central College, Bangaloie, M H Muza Hussain B A.B L District Judge, Shimoga, and S. Rangachar Retired Inspector of Schools, as members, with Mr C Krishna Rao B A as Secretary

The scheme in itself seems to be good and at the same time patriotic but the question is whether it will be efficient and whether at the same time it will command the esteem and confidence of the outside public and whether the diplomas will command value outside the State

In considering the advisability of inaugurating a local University, it must be understood that no benefit can be derived, unless the institution be modelled on such lines, as to be a distinct advance on the present system, by which the State Colleges are affiliated to the University of Madras. The chief objection to the existing arrangement is the absence of close association between the University and the Colleges The function of the University as at present constituted is to draw up syllabuses, to conduct examinations and to grant degrees to successful undergraduates, that of the Colleges to provide instruction of the kind best calculated to enable students to satisfy the University's examiners The activity of the University of Madras are now distributed over an immense area of country

This fact, added to the impersonal character of the University as a body consisting principally of Boards of Studies, for the drawing up of examinations, for carrying them out, renders impossible anything but the lightest and most occasional contact, between the University and its students and may preclude the adoption of curricula best suited to the local condition of the various parts of the region served by the University. It is now being generally recognised that such purely examining Universities will have to give place to a number of smaller local institutions conducted on quite other lines and free from the objectionable features indicated.

Mr E. Metcalfe, Professor of Chemistry in the Central College is therefore of opinion that these new institutions must be teaching and should also be residential Universities.

If University has to be started, an amendment of the Indian Universities Act, has to be obtained It must also be considered that the local University should be efficient and suitable Mr Metcalfe thinks that the Government of India, may not consent to any amendment, if it is to create yet another purely examining body. The Viceroy's remarks on various occasions, notably in reply to a deputation of protest against the new University of Dacca and also at the Calcutta University Convocation are sufficient evidences of this

Mr Metcalfe therefore opines that a University worthy of the name should provide instruction of an advanced character in a large variety of subjects The faculties, which might usefully be included in the University of Mysore are the following —Arts. Science, Agriculture, Medicine, Engineering, Law, Pedagogy, and perhaps Commerce. Mr Metcalfe thinks that the existing Colleges in Mysore and Bangalore, with comparatively small additions would accommodate Arts and Science. An Agricultural College is to be opened next year with Dr Coleman M A. Ph D as Principal A Medical College can easily be opened in connection with the Victoria Hospital

A nucleus for a Faculty of Teaching exists in the Normal Schools

The question of degrees in Commerce is not an easy one and Mr Metcalfe thinks that it may be omitted for the present A suitable building to house the University Library should also be started

The cost of the buildings with their equipment may probably cost between 30 to 40 lakhs of rupees The expenditure may be spread over a period of 10 years, within which time, the various schools and colleges may be sufficiently equipped and as they become completely equipped each may be affiliated to the University of Mysore.

Before the groups of schools can be formed into a chartered University, each school may grant diplomas to its students on the results of annual college examinations.

The standard of attainment necessary to obtain a good diploma, should be high, higher than that required for the corresponding degree by the Madras University

This would certainly have the way for a favourable recognition of the Mysore degrees in other parts of India

But the hardest problem in connection with the University will be its administration

The University will owe its being to Government interest and to Government funds. The Government must grant the University a perfect autonomy and should not require it to manufacture graduates at a cheap rate, without any regard to the maintenance of a high standard The University must be strong enough to resist any such tendency

The opinion of the Committee is awaited with interest

Shri Jiva Daya Gnan Prasarak Fund, Bombay

IMPORTANT ANNOUNCEMENT TO MEDICAL GRADUATES

Competitive Prize Essays are invited from the Medical Graduates including the Medical Graduates of the National University of Calcutta and the Veterinary Surgeons on "The Evils of Animal Diet" by Shri Jiva Daya Gnan Prasarak Fund of Bombay

Four prizes to the value of Rs 500 will be awarded to the first four candidates whose essays will be selected as chigible for prizes by the Council of Examiners

The following gentlemen of the general Council of *The Order of the Golden Age London*, have kindly consented to examine the essays

1. Sidney H. Beard Esq 2 Sir William Earnshaw Cooper C I E 3 Dr Josiah Oldfield D. C L, M A, L. R C P, M. R. C. S 4. Dr Robert Bell M D., F P. S, etc 5 Percy E Beard Esq.

The prizes will be awarded in the following order

First prize consisting of Gold Medal and Cash to the value of Rs. 200. Second Rs. 150. Third Rs. 100. Fourth Rs. 50 The text books prescribed for these essays are,

(1) The Living Temple or The Miracle of Life (the title which is given to the latest edition of the Living Temple) by Dr J. H. Kellogg., M. D., Price Rs 4-8-0. (2) Diet and Food by Dr. Alexander Haig. M. A., M. D., F. R C P Price Rs 1-8 (3) The Cancer Scourge and how to destroy it by Dr Robert Bell M D, F. P S &c Price. 0-12-0. The text books can be had directly on payment of cash, or by V P P from the undersigned The essays should be written on one side and should not consist of more than 100 foolscap sheets

The candidates are requested to send in their essays to the undersigned on or before the 1st of March 1913

The results will be published in the beginning of the month of July 1913, and the Medals will be awarded in the month of September 1913

The Fund reserves the right of publishing any of the essays

The distribution of prizes to the successful students of the Pathsala Sanskrit Pathsala, came off under the presidency of Mr V. S Balasubramanyam Aiyar the Sub Judge After the usual recitations by the students the substance of the report was explained in Tamil to the audience by Mr Sivagurunatha Chettiar, one of the members of the Devastanam Committee who are the Managers of the Institution Mr. Chettiar has taken more pains to improve the Pathsala than others, and is an ardent lover of the classical learning of our country. We gather the following facts from the report —

In kind the income of the Pathsala for Fasli 1320 was 1 194 *Kalams* of paddy and in money Rs 2 600 and odd. The balance in favour of the School at the close of the Fasli was only Rs 210 Receipts in favour of the Agama section of the School were Rs 1 134 and expenses came to nearly Rs. 8,130

There are three different sorts of students who receive free-boarding and education in this institution, viz – (1) the Vedic section (2) Literature and science and (3) Agama. Each of these sections contains more than thirty students. The accommodation at present is insufficient and a portion of the classes is kept in a separate shed The Committee rightly give praise to Mr Krishnamachariar, the Manager of the Devastanam office, who is virtually managing the Pathsala



A conspicuous addition to the number of centenary commemorations is that of the Royal Society, which has now celebrated its two hundred and fiftieth anniversay, with the aid of a vast concourse of men of science and distinction from every part of the world. Another of the many useful foundations which in England owe their origin to private enterprise, the Royal Society was brought into being by the binding together of men of science with others who, without being scientists, appreciated their search after the secrets of Nature. Very aptly representative of the present day sympathy between the older and the younger knowledge was the service in Westminster Abbey at noon on Tuesday, when Bishop Ryle, the Dean of Westminister, recalled the days of conflict between revelation in religion and discoveries in natural science. Now, said he, "they thanked God for the great and glorious work that had been done by the men of science for the widening of human thought; with all humility they expressed their grateful obligation for the benefits which had been rendered in this country by the Royal Society." In the afternoon Sir Archibald Geikie, the President, accompanied by Lord Rayleigh and others, received the three hundred delegates from the British Isles, the Dominions beyond seas, and foreign countries, and delivered his presidential speech. Addresses of congratulation were next presented by the delegates, and at night a banquet took place at the Guildhall, where attention was directed to the Royal Society's early history by the Prime Minister, who proposed the toast; while "Universities at Home and Abroad" was proposed by Lord Morley, and the Archbishop of Canterbury toasted "Learned Societies in the Old World."

Two hundred and fiftieth Anniversary of the Royal Society

The London New Tests in Modern Languages

The Universities of Cambridge and London are instituting examinations in modern languages, which can be taken by persons who are not pursuing a University course. They are designed especially for teachers with whom such languages are a secondary subject. The two examinations will be on the same lines and will be of a very practical character. Translation to and from the foreign language, an essay in that language, and phonetics will be the principal subjects and there will be an oral test, which we hope we may assume will be stringent. The examinations will be certainly useful. The country is being flooded with certificates in modern languages of all sorts and kinds, given by societies and organizers of holiday courses, and the value of many of them is problematic. Modern languages are largely taught, especially in the early and middle stages, by teachers who have taken a degree in some other subject, and they have at present no means of obtaining any incontestable certificate of their attainments. To these the new examinations should be welcome, as they should be also to head masters and other appointing authorities, who have at present no means of guaging the linguistic attainments of candidates for posts

LONDON UNIVERSITY.

It was resolved

1. That the Chairman of the Site and Accommodation Committee and the Principal be requested to communicate with the Drapers' Company with a view to ascertaining whether the Foundling Hospital Site would receive their approval for the erection thereon of a Senate House and Administrative Offices at an approximate cost of £60,000.

Site for the University

2. That the Vice-Chancellor be requested to inform His Majesty's Government that the Senate after having carefully considered the advantages and disadvantages of the various sites which have been brought to their notice, have come to the conclusion that the site of the Foundling Hospital is the most suitable now available for the provision and erection of new Headquarters for the University; and to ascertain whether, if

promises for a substantial sum of money be obtained towards the cost of the acquisition of the site, His Majesty's Government would be prepared to give effect to the Treasury Minutes of February 16th, 1899 and July 13th, 1899, so as to enable the site suggested to be secured and suitable buildings to be erected thereon

3 That the Vice Chancellor be requested to communicate Resolution 2 above to Viscount Haldane, and to invite him to submit it to those persons who have already shown their interest in the University by offering donations towards the purchase of a site, with an expression of the hope that he will use his influence with them so that their offers may be available for the purchase of the site named in that Resolution

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L C C Endowed Chairs

The following appointments were made as from September 1st to the Chairs endowed from the new grant recently made by the London County Council for the increase of the University Professoriate

Dr J A Fleming, F R S Professor of Electrical Engineering (to teach at University College)

Dr Arthur Dendy, F R S Professor of Zoology (to teach at King's College)

Mr A J Sargent Professor of Commerce (to teach at the London School of Economics)

It was resolved that appointments under the same grant should be made shortly to two new Chairs of French Literature and French History and Institutions respectively

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School of Town Planning

The Summer School of Town Planning which will be held at the Hampstead Garden Suburbs under the auspices of the Board to Promote the Extension of University Teaching will commence on Saturday August 2nd and will continue daily until August 17th After the reception of the students on August 3rd the President of the Summer School the Right Hon the Marquess of Crewe, K G will give an inaugural address The fee for the course is 1½ guineas, and applications for admission accompanied by the fee, should be addressed to the Honorary Secretary, Mr J S Rathbone, The Institute, Hampstead Garden Suburb, N W.

UNIVERSITY OF PENNSYLVANIA

What will probably be the largest Dental School in the world has been established by the affiliation of the Thomas W Evans Museum and Institute and the Dental School of the University of Pennsylvania A new building on handsome architectural lines 242 feet long and 160 feet wide will be immediately erected on the former Evans property at 40th and Spruce Streets in Philadelphia. Dr. Evans founder of the Institute by bequest, was a famous American dentist of Paris, France who left it about four millions of dollars. By litigation and other means, much of this was dissipated by the French Trustees but the American Trustees managed to secure about a million and a half The Hon John Weaver formerly Mayor of Philadelphia, is president of the Board of Trustees of the Institute

At the annual Commencement of the University of Pennsylvania seven honorary degrees were conferred as follows The degree of Doctor of Laws upon Joseph Swain, President of Swarthmore College and the orator of the day Louis A Duhring, Professor Emeritus of Dermatology and Honorary Curator of the Dermatological Collections of the University of Pennsylvania, James Tyson, Emeritus Professor of Medicine at the University of Pennsylvania John Cadwalader, Esq who has been a Trustee of the University since 1910 John Grier Hibben, President of Princeton University Edward Robins the Secretary of the University, received the honorary degree of Master of Arts and Dr George Woolsey Hodge, a graduate of the University the honorary degree of Doctor of Sacred Theology

The General Alumni Society of the University of Pennsylvania has raised, during the past two months a fund of $70,000 for the contingent fund of the Provost, and has begun a campaign to raise ten millions for the endowment fund the interest of which is to be used for the increase of the salaries of the teaching staff of the University

The Summer School of the University of Pennsylvania opened on Monday, July 1, and will continue until August 10 The work of the School will be agreeably varied by entertainments which will include excursions to Atlantic City, Valley Forge and other places, especially those of historical interest; moonlight excursions and receptions.

WHAT OUR STUDENTS ARE DOING ABROAD

Training of Indian Students Birmingham Committee

Birmingham University on June 24th had distinguished visitors representative of the India Office. The India Council recently decided upon an enquiry into the facilities afforded to Indian students in technological and industrial subjects in Great Britain A department al committee was appointed consisting of two members of the Council, Sir Theodore Morison and Sir Krishna Gupta, Professor Dalby, of the City and Guilds College, Kensington, and Dr. Reynolds, late head of the Municipal Technical School of Manchester They have visited Glasgow Leeds and Manchester, and the same day came to Birmingham. They enquired specially with regard to the system of Government scholarships by which young Indians are sent to British seats of learning at the expense of the Government, training of the men so sent, and the possibilities of these men being given practical instruction in British works after they have gone through the university courses In the morning they visited Bournbrook and took evidence from professors Heath, Turner, and Cadman, who have had several of the Government scholars under their charge. Professor Ashley arranged for a number of the leading Birmingham manufacturers to meet the committee in the afternoon at the Edmund street buildings, and the general subject of technical and industrial education, as it relates to Indian students, was exhaustively discussed at a round table conference. Chief interest however, centred in the means by which the students might get experience in English works.

Medical Successes

We have always noticed with pleasure the growing desire followed by good results no doubt among our young medical practitioners to proceed to England for further studies and higher degrees Dr, B. C. Roy M D has come out with M R C P. and F. R C. S. degrees of England Lieut I L Sen, M B got into the Indian Medical Service, last year in an incredibly short period to wit, three months. Dr. S N. Ray M B who threw up his appointment as an Assistant Surgeon, obtained the F R C S (Edin) degree in his first attempt and headed the list of successful candidates at the last D T M (Diploma of Tropical Medicine) examination This is the first time, we believe, that a Bengali gets this diploma Dr S. N. Mookerjee who also threw up a similar appointment obtained his F R C S degree this year and is now trying for the L M of Rotunda, Dublin. All these successes speak well of the spirit of emulation among our young medicoes to win higher honours in their profession. To-day we have great pleasure to announce that Dr. S. C. Sen M B Ch B (Edin.), youngest son of our illustrious countryman, Keshub Chandra Sen, is proceeding to London for further studies.

Mr. Kurula Zacharia, B A, is proceeding to England on a Government scholarship to specialise in Modern History at the Oxford University A large gathering of Europeans, and Indians assembled at the Y. M C. A. Madras to bid farewell to Mr Zachariah

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Bengal National Council of Education and two of its Students

We are glad to announce that two of the scholars of the National Council of Education, Calcutta who were sent to America in 1910 have already graduated themselves finishing the 4 years course in two years. Their names are Dhirendra Nath Sarkar and Surendra Nath Ball We give below a short account of them.

Dhirendra Nath Sarkar

Dhirendra Nath Sarkar belongs to the District of Dacca and is now aged only 21 years He passed his Entrance Examination from the Calcutta University and got a second grade scholarship After this he passed the 5th Standard Examination of the National Council of Education and was a student of mechanical Engineering for 2 years at the National College, Calcutta He stood first at the 7th Standard Examination of the National Council of Education Before he left for America he studied History, Economics and Biology at home He was sent up to Yale University U S A by the National Council of Ed as a Scholarship-holder He studied Industrial Chemistry for 1 year at Yale securing 92% marks in the Exam in certain subjects He then went to Michigan University and after completion of one year there he graduated in B. Sc this year, thus finishing 4 years work in 2 year's time by taking extra courses during holidays.

Surendra Nath Ball

Surendra Nath Ball also belongs to the District of Dacca and is now aged 24 years He passed the 5th and 7th Standard Examinations of the National Council of Education Bengal having stood first in Biological subjects He studied at home Economics, Chemistry and subjects allied to Pharmaceutical Chemistry, prepared Text Books in vernacular for Botany and Zoology for use in Secondary Schools. He worked as an assistant in the Biological Laboratory of the Bengal National College and for some time was an apprentice in the Bengal Chemical and Pharmaceutical Works Ltd. and there he studied organic and analytical Chemistry. He was in charge of the Preparation Department in the B. C. P. W in a subordinate capacity. He was sent up to Michigan State University U. S. A. for Pharmacy. This year he graduates in B. Sc. & Ph. C completing 4 years course in two year's time by taking extra courses during holidays.

The Lost Art of Letter Writing.

BY THE HON GEORGINA O'BRIEN

Is the art of letter-writing fast becoming extinct? was the question that forced itself upon me a short time ago, as I regrettully laid aside a delightfully written volume of seventeenth century letters, which I had perused with unflagging interest In these days of telephones, telegrams marconigrams, halfpenny papers, and the ubiquitous picture postcard who can boast of being the recipient of entertaining letters touching lightly on a multitude of topics?

Amid the hurry and bustle of the twentieth century, letters as contributions to literature are becoming as extinct as the Dodo Those who are acquainted with the manners and customs of the past, through the agreeable medium of letters may well sigh as they ask themselves is there anyone amongst us sufficiently painstaking and patient to chronicle in anything like graphic detail the manners habits and sentiments of this most progressive century? Most of the delightful letters which faithfully mirrored the contemporary life of past ages were written by women because, probably in those days time lay heavy on their hands, or perhaps as Horace Walpole rather grudgingly admits Women excel men as letter writers for our sex is too jealous of the reputation for good sense to hazard a thousand trifles and negligences which give grace ease and familiarity to correspondence Doubtless there have been many eminent men whose letters have a high literary value Swift and Pope corresponded and Doctor Johnson thundered forth opinions in majestic language but one cannot class the misanthropic Dean, the satirical poet or the melancholy lexicographer among the writers of brightly-written, gossipy letters though the Sage sometimes indulged in a sort of elephantine playfulness when writing to Mrs Thrale But these writers were always men of letters rather than letter writers It is women who have left us letters, full of delightful gossip, airy and anecdotal, concerning celebrities of the past. What an imperishable social portraiture of France under the reign of Louis XIV, that most fascinating of of all letter-writers, Madame de Sevigne, has bequeathed to us? Hers was the true art of letter writing for she wrote enchantingly on any subject, no matter how trivial She writes so piquantly, so playfully and withal so naturally, that, as we read we seem to hear her speak We are interested and amused by her account of an insolent lackey who refused to help with the hay-making, saying that hay making was not his "*Metier.*"

Mais oui she remarks with delightful candour Il colere ma monte a la tete et il est parti!" It is sheer joy to read that famous epistle, sparkling with gaiety and wit in which she announces the engagement of Mademoiselle de Montpensier the grande mademoiselle (the greatest heiress in France)—to that adventurous swashbuckler Lauzun I cannot refrain from giving this wonderful letter in a much abridged form Thus writes Madame de Sevigne to her cousin Madame de Coulanges

'I am about to tell you something most astonishing—of all things the most surprising, the most marvellous the most miraculous the most triumphant the most bewildering the most unheard of the most singular the most incredible, the most unexpected the most exalting the most humbling the most extraordinary the most rare the most common the most dazzling and until to day the most private the most brilliant, the most enviable In brief a thing of which there has been no example in past times a thing which we in Paris can hardly believe Then how is it to be believed in Lyons? A thing which causes everybody to exclaim *Mon Dieu mon Dieu!*—I cannot make up my mind to tell it to you—Guess it I give you three guesses Well I must tell you at last Monsieur de Lauzun marries next Sunday at the Louvre Guess whom? I give you four guesses I give you ten I give you a hundred You say truly it is difficult to guess Is it Mademoiselle de la Valliere? Not at all, Madame Then Mademoiselle de Retz? Come, I must end by telling you he marries, with the king's permission Mademoiselle—Mademoiselle de—Made

moiselle—guess the name—Mademoiselle, la grande Mademoiselle, Mademoiselle, the daughter of the late Monsieur, Mademoiselle, granddaughter of Henry IV., Mademoiselle d'Eu—Mademoiselle de Dombres—Mademoiselle de Montpensier, Mademoiselle d Orleans, Mademoiselle, the king's first cousin, Mademoiselle once destined to the throne—Mademoiselle, the only woman in France worthy of marrying Monsieur. Here's news for you!

In another of her letters, almost equally famous, she describes the death of poor Vatel, the chef who was to cook dinner for the Grand Monarque, when that Sovereign was the guest of the Prince de Conde It was Friday, and the fish for the Royal banquet failed to arrive in time Vatel, the famous adept in the culinary arts, thinking he was disgraced, rushed to his room, and flung himself upon his sword, exclaiming, as he ran himself through, "All is lost. I am bereft of honour." Happily, nowadays, cooks so zealous for the reputation of their masters' tables have disappeared—vanished with the lost art of letter writing. In these days we need have no fear of our cooks committing suicide should a dish fail!

Madame de Maintenon also excelled as a writer of *spirituelle* letters, many of which, full of sagacious counsel, were addressed to the pupils of St. Cyr. The very mention of the eighteenth century conjures up a host of epistolary writers, mostly French-women Mademoiselle Aisse, Madame Geoffrin and the unhappy Mademoiselle de Lespinasse, whose remarkable gifts as a letter writer were all but surpassed by her marvellous conversational powers. Of her it was said, by the writer Guibert, "Perfect harmony reigned between her thoughts and her mode of expressing them. She could make marble feel, and matter think The blind and witty Madame du Deffand was the correspondent of the greatest literary men of her time. The most interesting of her letters were penned to Horace Walpole, himself the writer of, what he called, "Gossiping Gazettes." To the graphic pen of that indefatigable traveller, Lady Mary Wortley Montagu, we owe picturesque descriptions of Rome, Vienna, Turkey and the East. Her fertile "quill" was as miraculous as the wand of the magician. She had but to place it between her fingers and, lo! her readers are transported to the banks of the Bosphorus, or to some distant clime, perfumed by the breath of the orange and myrtle At one time she and Pope corresponded, but the lady and the poet quarrelled, as ladies and poets have been frequently known to do before and since, perhaps because the poetical temperament is more readily susceptible of offence than that of the ordinary mortal In those days these lines of warning by a great poet had still to be written, "Vex not the Poet's mind," so that Lady Mary had not the benefit of such advice. Ever ready to laugh at the expense of others, she cruelly ridiculed the deformed and sensitive little poet, who was distinctly vexed, so much so, indeed, that he became "Sappho's (for so he used to call Lady Mary) implacable foe, and never lost an opportunity of speaking and writing disparagingly of her. She, on her part, retaliated by maliciously designating him "The Wicked Wasp of Twickenham

If France and England can boast of women famous for the excellence of their epistolary style, Ireland, too, is not without her letter writers Maria Edgeworth, who led a monotonous existence in County Longford, despite lack of material wielded her pen triumphantly and wrote interesting letters to her "dear friend, Lady Kitty Pakenham Mrs Latouche, of Harristown, who died but a few years ago, wrote a charming volume of letters* which fell into my hands the other day Her intimate friend Ruskin was the recipient of many of these letters, which abound in descriptions of the ever-varying beauty of hillside and bogland.

Reams of paper might be covered with descriptions of famous letter writers and their different styles of writing, but such is not my intention—I rather write to plead for the resuscitation of what appears to be a lost art - that of

* Letters of a Noble Woman.

letter writing—and surely the page of an Educational Magazine is a fitting place to urge my plea.

I would suggest that at least one way of reviving this neglected art would be for heads of schools to start correspondence classes amongst their own pupils and with those of other schools. Competitions might be instituted and prizes offered on the same lines as those for games. A keen interest might thus be aroused, and pupils would be encouraged to correspond with one another, and with their teachers, giving their own opinions on their studies, their different interests, games, favourite authors, art, music, and an infinite variety of subjects. Teachers desirous of fostering the art of letter writing should impress upon young people the necessity for individual style and originality, and that letter writers should communicate something of themselves to their readers—who could thus form a distinct idea of the personality of their correspondents.

It has been well said that a perfect letter writer should impress his or her personality on the reader as vividly as if they were in actual conference. Writers often become colourless pedants, or mere imitators, instead of aiming at originality of expression. It behoves us to be our own revealers, for it should be remembered that, in all writing, "Le style c'est l'homme meme."

Cadogan Palace,
London.

GEORGINA O'BRIEN.

"Evolution—Natural and Spiritual."

BY SITARAM BANERJEE ESQ. M.A., B.L.

To try to ascertain the cause of an event is in the nature of man; it is this nature which has led everyone to find out the ultimate cause of the world. What is the cause of the world? Is it created? If so, then who is the creator? When was it created? Such questions have arisen since the very dawn of philosophy. The problems still remain unsolved and who knows whether they will ever be solved!

Every established religion is mainly based upon certain beliefs. But belief is no proof. The questions therefore, arise, what are the grounds of such religious beliefs? Can they stand the test of our intellectual examination? No system of religion seeks to answer such problems. Every form of religion agrees in the belief that this world has been created by a certain creator at a definite and particular point of time. This belief in special creation is found not only in various religious books but there are great philosophers who also think that such beliefs require no proof. Our Naya and Vaisasik systems of philosophy believe in the theory of special creation. The existence and workings of God have been proved by the Vaisesiks in this manner:

Every event has a cause

Air, earth, water are of the nature of events;
∴ Air, earth, water must have a cause—and the cause is God. The Naya system of philosophy has proved the existence and workings of God in a similar way. Now it is clear that the Naya and Baisesik systems of philosophy have tried to establish a causal relation between God and the Universe. According to them, this finite universe was created by God at a particular point of time with a special purpose in view. Most of the Greek philosophers are of this opinion. Among the philosophers of modern Europe, Liebnitz and Martineau, have tried to give a philosophical explanation of this doctrine. According to Liebnitz

created a certain substance called Monads. These monads are partly spiritual and partly natural, and this world is nothing but an aggregate of such monads. God is merciful, and therefore his creation is beautiful—this world 'is the best of all possible worlds' According to Martineau God created the world from 'pure unresisting space.' God is infinite, the world is finite—God is the creator and the world is his own creation.

We would urge the following objections against the above views The theory of creation separates God from the world—it makes God the external cause of the world If God is infinite and eternal then how is it possible for other things to exist beside him? Why did God create the world? Some think that it is a mere sport, while others assert that God wanted to show mercy But both these views seem to be rather unsatisfactory Moreover, the creation of the world from absolute nothingness is an impossibility Something can never come out of nothing Martineau's pure unresisting space is also inconceivable For this reason, the Hebrews hold that in the beginning there were only two substances—God and Chaos, God has created the world out of Chaos The Vaisesiks among the Hindus and Democritus among the Greeks hold that God has created the world from Atoms If so how can God be infinite? There can exist but only one infinite If we want to retain the infinitude of God we must make him to be both the efficient cause and the material cause Again, there is much doubt about the creation of the world at a particular point of time. God did not create a world before—why did he create it in that time and not in any other time? Thus creating the world did he remove any want in his nature? Is the God "with a world" superior to the God "without a world? It seems to us that no satisfactory answers have been given to these questions No one except some bigoted religionists, perhaps, will say that the creation of the world is perfect. Those who have thought a little, may not indeed go so far as to agree with Schopenhauer, regarding the wretched imperfections of this world, but in all fairness, they will have to admit that there are some imperfections in it. A poet has asked 'whence come the imperfections?' Has anyone answered this question? It God has created every thing at a particular point of time then he must have created imperfections as well The Christian and the Hebrew conception of Satan seems to us to be unphilosophical Had God no power to suppress Satan?

Now we may perhaps go so far as to say that the theory of special creation is erroneous The objections that have been raised against special creation naturally lead us to the theory of evolution What is meant by evolution? Evolution is the transition from the uniform to the varied, from the homogeneous to the heterogeneous, from the simple to the complex by the gradual processes of differentiation and integration Consequently, all those doctrines, that assert that the higher stages of the universe have come naturally out of the lower stages, will fall under the theory of evolution

We can ordinarily divide the evolutionists under two classes Some evolutionists think that the gradual transition is natural Mechanical laws are sufficient to prove the movements of the world and there is no need of assuming an all-knowing and all pervading self conscious subject Others think that unless there is a subject with a purpose, this gradual transition cannot go on We shall try to discuss the two views

Amongst our Hindu philosophical systems the Sankhya system may be designated as the theory of Naturalistic Evolution According to Sankhya Prakriti (object) and Purus (subject) make up the ultimate duality of this world The whole universe has been evolved out of the combination of the subject and the object Nature or object is the only material out of which this world has been built up. It has neither beginning nor end. It is extremely fine (सूक्ष्म) and homogeneous. It is this object that is ultimately transformed into this universe of ours, so full of life and variety. It is written in the Sankhya sutras 'प्रकृतेः दाक्षी पाकाणता,'—Nature is the ultimate material of this world. This nature is also known by another name in the

Sankhya Philosophy अनिर्वचनीय (undefinable) *i. e.* Nature, qua-nature, is not cognisable by our senses. *

Let us now examine how out of this indefinite and homogeneous matter comes out the stupendous fabric of this huge universe. According to the Sankhya system this matter is always in an unstable condition—to be transformed is its nature; as a matter of fact this Prakriti can never remain in a homogeneous condition. As soon as Prakriti begins to be more and more definite महत्तत्त्व is originated, out of the transformation of this महत्तत्त्व comes the अहङ्कारतत्त्व (the idea of the self) and out of the transformation of this अहङ्कार come the पञ्चतन्मात्रस. Thus out of the one indefinite homogeneous matter is evolved out the entire world—material and spiritual. Now a question will arise as to who causes this evolution in matter. The Sankhyas will reply that this is the nature of the matter. As milk is naturally transformed into curd as one season is followed by another, so nature's evolution follows out of its own nature. In this respect we might very well compare the views of the English philosopher Spinoza with the Sankhyas. He says that just as a spider spins out the web from out of its own interior without the help of any external object so also, matter evolves according to its own natural laws without the help of any external conscious subject. But what is the end of this evolution? Matter itself cannot perceive it it is the conscious subject that perceives this natural evolution. But certain it is, that the conscious subject is in no way responsible for, and does not contribute to the ceaseless process of evolution that is going on. He is simply the looker on (द्रष्टा) and the enjoyer (भोक्ता).

Now we can understand that the Sankhya system is purely a theory of Naturalistic Evolution. This entire universe is nothing but the transformation of matter. This Naturalistic Evolution, to speak in the language of Prof Wilson is an intuitive necessity.'

* We may in this connection compare Spinoza's conception of Natura Naturetta with the Sankhya conception of of Prakriti or Nature.

After the short statement of the Sankhya system we will now discuss the theory of evolution as propounded by the modern European philosophers. For convenience of discussion we will sub-divide this naturalistic evolution under two heads,—(1) the terrestrial evolution of Laplace and Herschell (2) the animal evolution of Lamarck and Darwin. It is said that after the publication of Laplace's famous book on 'celestial mechanics' Emperor Napoleon asked him as to why he did not mention the name of God in a treatise on the heavens. In reply to this Laplace drew himself up and proudly replied "Sire, I did not feel the necessity of any such hypothesis!" So we can see that Laplace's theory of evolution is purely naturalistic in its character. According to Laplace and Herschell this universe was, to begin with in a nebulous condition—neither hard nor liquid nor gaseous. There are many stars even now that are in this state. This nebulous matter, for some reason or another began to revolve upon its axis with great velocity and on account of this revolution thousands of small pieces of this substance began to be scattered about here and there in space. Our Earth is only one of those scattered pieces existing in space alone, as it did this earth began gradually to lose its heat with the result that its upper surface was covered over with a hard crust, which is the land portion of the earth. It has not yet been ascertained exactly as to what is there in the centre of the earth. According to the great geologist, Sir Arch Geikie about a hundred miles are in a molten state and then lower down it is entirely gaseous. This theory would make the explanation of earthquakes and volcanic eruptions easy. Herschell has after a good deal of observation and investigation, found out that the stars in the sky change from one state to another, just as human beings pass through the various stages of childhood, youth and old age—so there are infant stars, young stars and old stars. Scientific investigations into the interior of this earth also supports this view. Sir William Thompson has somewhere remarked, that the fact, that this earth has once come out of an extremely hot substance

is purely a matter of inference. If in walking about we come across a hot piece of stone, we do not hesitate in declaring, that this piece has in the near past come out of some hot place; so the extremely hot condition of this earth's interior inevitably suggests, that this earth was, at sometime or another, a part of a system which was particularly hot.

Thus it seems to be an indubitable fact that this solar system of ours has been evolved out of some much bigger nebulous system at a very high degree of temperature, and that, it has come to its present state, according to some purely natural laws.

We will now discuss Evolution as it obtains in the animal world. There are not a few who are under the impression that Darwin is the original propounder of this doctrine; but the fact is, that it is as old as greek philosophy. Amongst the modern European scientists, we believe, it was Lamarck who first turned his attention towards this subject, and his investigations and the conclusions arrived at indicate good deal of originality and really valuable research. But the science of Biology was in a very rudimentary state then and hence, his researches were mostly regarded more or less as hobbies of an unsound brain. According to Darwin, 'Natural Selection' and 'Survival of the Fittest' are the two laws that primarily govern the Evolution of the world. He defines 'natural selection' as the 'preservation of favourable variations and the rejection of injurious variations.' (*Origin of Species*). Animals are ceaselessly fighting with each other for the preservation of their own lives and it is the fittest and the best that survive in this fight. Let us take a concrete example. In the days of yore the goats had no horns; it was but natural that then they would come into conflict with each other in their search after food, and so, their heads were brought into requisition for this fight. Thus after several scuffles the two corners of the heads of some goats began to be a little hardened, and on account of this hardness of their heads, they used to get the best of the strife. Gradually, this change became permanent in their successors according to the 'Law of Heredity.' Gradually, this hardness developed into the horns and then after sometime in accordence with the Law of the survival of the fittest, goats that did not possess horns were absolutely eliminated. Human beings are evolved out of apes and chimpanzees, according to these natural laws. In fact, barring a few minor differences—differences merely of details and degrees the brains of human beings and of chimpanzees are almost alike. Prof. Huxley in his famous book 'Man's place in nature' has clearly shown from the construction of the brains and bodies of human beings and chimpanzees that it would be idle to deny that the former have naturally evolved out of the latter. The two fore legs of the ape have been transformed into the two human hands. With the improvement of the brain the actions of the animal become finer and more diversified. Consequently the works dictated by the finer organism of the human brain can hardly be performed by the four legs and this necessitated the transformation of the two legs into two hands. Prof. Wallace in his "Darwinism" has narrated many interesting examples of the habit and conduct of apes and chimpanzees and they are so very akin to the ordinary actions of a human being that they hardly leave any doubt as to the bodily evolution of mankind. The external objects of nature exercise a good deal of influence over animal Evolution. It is a matter of common observation that the climatic condition of a particular place has much to do with our physical organisms. According to Lamarck, want is a very important factor so far as Evolution is concerned. If a particular animal stands in great need of a particular organism, it is very likely that he would develop it in time. Darwin's view is opposed to this; in his opinion, all changes whatsoever, come mechanically of themselves. Natural Selection can never initiate a change, it can only preserve it when it is once begun. Weismann and Wallace have to some extent modified and enlarged the original doctrines of Darwin, but substantially they have not differed much, and so, a detailed review of their systems is not necessary in this short paper. (*To be Continued.*)

SITARAM BANERJEE.

A socio-religious History of Bengal

BY RAI S C DASS BAHADUR C I E *

Western historians have long observed that India has no history of its own This observation will be partially endorsed and it will have to be acknowledged that really India is rather poor in this respect if by history is meant only establishment of Kingdoms and revolutions accounts of battles and wars and the finding out of their times The meaning however of history is not so narrow or limited It cannot stop with the simple narration of particular facts and events but goes far beyond it and tries to find out and gauge the innumerable forces that accompany and underlie these events with their probable effects upon the future

From this point of view it can never be said that the ancient history of India has been lost On the contrary it will be affirmed that the pages of its real history are fully open before the student through its social life and literature rites and festivities institutions and observances And naturally it is the birth right of Indians only to be able to institute researches in this direction and in such a way as to make them really useful On this Subject I held a long controversy in 1897 with the late Mr R C Dutt of revered memory and at length he had the frankness to acknowledge that it was really incredible that the nation whose first intellectual efforts had produced the Vedas with the Vedanta had got no history of theirs Yes we have our history and it is a matter for congratulation and building high hopes upon that endeavours are now being made in the right direction for recovering it In every quarter steps are being taken for the collection and critical notices of the ancient MSS genealogical treatises ancient laws and songs stories of ancient festivals and ceremonies legends and traditions It is those that are engaged in this noble work who will really glorify the country and are worthy of every praise

On the occasion of the last Literary Conference of Bengal held at Chinsura and in the course of my enquiries into the extent and nature of the work that was being done in the Vaishnava Country I came to know with pleasure the name of Babu Haridasa Palita of Malda and of his historical researches The pains that he has been taking for the last twenty years unknown and unrecognised alone and silent for the collection and digestion of the various materials of history are no small matters for the glorification as well as self congratulation of Bengal

And now I do feel exceedingly glad that the results of his labours and with them a partial picture of the glories of Varendra are going to be presented to the public in the following pages

In this work of his really many facts have been gathered relating to our society and religion and it contains many materials for writing a systematic and continuous history of our national life The collection and publication of materials of this nature will go a great way to enable us to know what an advanced people we are successors of, and also to have the way for the presentation in time of our whole history before us—not as a collection of dry facts but as a living instruction and inspirer

Nay the results of such noble labours will not remain confined to this only In time, with the gradual adoption of topics like these in the body of polished literature we shall learn to look upon our country as our all in all our touch with our society will become closer and we shall thus gloriously march along the path of advancement and progress The common people will then know and feel that the educated class do no longer look down upon their amusements and diversions quoits and festivities pleasures and pastimes dance and music work and faith Indeed, it is things like these through which the national history reveals its ancient individuality to the educated class and which make them look upon the low class as the chief means of realising the whole national life The result of this closer touch between the educated and the uneducated will obliterate all their social animosities differences and discordance to the springing up in their place of cordiality unity and fellow feeling

To bring out to full play this immeasurable force of love upon the social life the attention of all the votaries of literature—the poet, the musician the (prose) writer the dramatist, the historian &c—should be directed to the social pictures of the educated and the half-educated and their domestic lives and social movements Steps like these will enkindle hopes in the hearts of the poor and the depressed supply words to the tongues of the dumb cause life to spring up around the hearth of the despondent, and the sense of self respect in the village life In short the whole national life will pulsate with aspirations for progress and advancement and the whole country will soon be agitated by a sweeping tide of noble sentiments and ideas

Haridasa Babu has devoted himself to the task of collecting ancient stories and legends and is thus pioneering the sweeping revolution It would be well if there were many to follow in his foot steps

From a critical study of the history of the 'Gumbhera' the author has shewn that age after age Hindu Society of India has maintained its

* Specially contributed English Translation of the Preface of a Bengali Work by Mr Haridas Palit, Research Scholar, District Council of National Education, Malda.

universality. Never has the national life of the Hindus been so radically altered as to lose the thread of its sequence or to be turned away from the groove of its own existence It has suffered changes but has always kept up its special tone Adapting itself to the geographical conditions as well as to the capacities of the people different times and places, the spiritual life of India has all along wonderfully revealed its true self through diverse and divergent institutions and observances What has belonged to Buddhism in one age has belonged to Caivism in another and to Vaisnavism in yet another—this has been the characteristic of the transitions in the Indian life There is no limit to the number of the lower classes of life and to the new nations and races that have in this way become incorporated with the Indian society and received its education civilization and religious spirit And of the lower ranks of modern society, and of the illiterate uncivilized and half educated people who have been living and moving and performing their religious rites away from the pale of civilized society many may have survived till this time as lifeless and lost remnants of the ancient Buddhist or any other society or may have risen from still lower orders of life through the educating influence of Hinduism and Hindu Society From an investigation into the history of our religion and society we shall be able to glean many other such facts We hope and trust that the present disquisition of Haridasa Babu will drawn the attention of our literati in this direction

The more the village life of the several districts of Bengal will be studied in the historical and the philosophical method the greater will be the number of the sides of our national triumph and glory that will be reclaimed from the clutches of dark ignorance and oblivion

Haridasa Babu has mentioned of the influence of (ancient) Bengal over the society and literature of Tibbet and Ceylon This is no myth Indeed the time does not seem to be far when if researches be made with thought and vigour the depressed mind of modern Bengal will be raised up with the genial glow of high hopes and aspirations owing to the discovery and establishment of the facts that Siam, Burma, China Tartary Mongolia even the far off Japan and Java bear testimony to the achievements of the (ancient) Bengal heroes of action and thought—that the whole of Asia itself was a field for the display of the energy of the Indian Hindu and that it was the Bengali professor and preacher, artist, trader and king that were the pioneers of this spread of the Hindu influence and were the guides of many nations in literature, religion, art and the fine arts It is because the study of the history of Bengal is thus pregnant that it is essentially necessary to undertake this The Bengali is the teacher of the half of Asia and the people of that half of Asia do still revere Bengal as paradise itself.

The study of this treatise by Haridas Babu will invite the attention of the reader in another direction I mean that of ancient Mss. It is a matter for regret that the attention of the graduates of our universities has not been attracted by them for they are the chief as well as the best means of understanding the history of our religion, language literature and society as well as of studying the past and present conditions of our country Without learning to use them we cannot expect to study historical facts in a really original and independent way Hence it is desirable to include these items among the subjects selected for imparting high education

In conclusion, I cannot forbear bringing to light in this connection a fact of India's historical glory upon which no one has touched before I published it to some extent at the sitting of the Literary Conference at Bhagalpore when I said To day I have come to the city of Champa and accepted the hospitality of noble hearted Lalit Chandra Ghosh Thus a long cherished desire of mine viz that of visiting Champa has been satisfied I intend relating some facts connected with the ancient history of this city And with these words I presented two MSS treatises of palm leaves written in gold character by Buddha Ghosa and relating to the Vaidhi Marga (the way or purification) and also showed of what sort the Champa characters were twelve hundred years before Immediately after my speech the inhabitants of Bhagalpore who took delight in the culture of literature said that now a days the Champa tongue had become largely mixed up with bengali and might really be said to be a form of it After the presentation of the MSS I gave a description of the great Vihara named 'Amkana situated in a place called Champa on the shores of the Chinese Sea It is said that formerly this Buddhist Vihara contained 68 00 pillars Relics of it extending over a mile are still extant The King of Siam has placed a sample of it before his palace in Bankok While travelling in Siam in 1887 my curiosities were excited by visiting these quondam glories of Anga and Banga

One year previous to the holding of the literary conference at Bhagalpore I became acquainted at Darjeeling with Sir Charles Elliot (an ex-Governor of Africa) in the course of his Indian travels He has been appointed of late President of the Honkong University He loves the children of India from the bottom of his heart and is not loth to sing of India's glories In 1902 he secured copies of my Tibbetan lexicon and my work relating to my travels in Tibbet and treated me respectfully saying that my works contained many facts I cannot do better than add on conclusion a few pleasing words from one of his recent lectures.

The gist and the substance of this lecture was published in the Statesman's issue of the 5th March this year In his opinion India had not only received many invasions but sent out expeditions to many different countries and made Hindu settlements there It is no myth but a fact of history. He goes even to assert that the Indian fine arts reached their climax beyond the limits of India herself Ample evidences are to be found in Java and Cambodia of the excellence attained by Hindu architecture

HINDUS IN CAMBODIA

LECTURE BEFORE THE EAST INDIA ASSOCIATION

Sir Charles Eliot Principal Designate of the new Hong-kong University gave a lecture illustrated by lantern views on the History and Monuments of Cambodia He said that this country now ruled by a King subject to the supervision of a French Resident had a history cutting athwart the idea entertained until quite recently that India had received many invasions but sent out none and that the Hindus were not a seafaring people In the early centuries of the Christian era expedition after expedition started from India towards the East The first settlement of the Hindus in Cambodia appeared to have taken place before 25 A D, and there was no reason to think the Hindu invaders and conquerors of the country came by land It was Jayavarman II (A D 802) who was to some extent the second founder of the Empire but Ankor-Thom which meant the great city was begun about 880 The locality was a flat swampy plain not convenient for the construction of great buildings, and with no military advantages Its selection for the capital some centuries later brought about the ruin of Cambodia But at the time the site was chosen there was much to be said for it The Cambodians then suffered from the attacks of Malay pirates therefore they wished their capital to be away from the coast Their possessions included the modern Siam therefore they desired a central position from which they could control their Western possessions but at the same time be within striking distance of the sister Hindu kingdom of Champa on the East with which they were continually quarrelling After describing in detail the wonderful architecture of Ankor-Thom and Ankor-Wat the temple held by high authorities to be perhaps the finest in the world—Sir Charles Eliot said that though Hindu architecture had produced triumphant results in India, yet perhaps its most satisfying masterpieces were the buildings found in Cambodia and Java, where some influence, perhaps the artistic feeling of the natives, had corrected the Indian faults of irregularity in design and over-elaboration of detail [Extract from the *Statesman*, Calcutta, 5th March 1912.]

SARAT CHANDRA DAS

The New Chemistry.

BY PROF J N SEN M A, CITY COLLEGE, CALCUTTA.

In the year 1867 to the best of my remembrance Professor Josiah Cooke of America coined this term *the new chemistry* to denote a new departure from the old ideas lying at the basis of Chemistry It would be simplest method of procedure if at the beginning of the subject, a clear notion is obtained what old chemistry was.

Chemistry is no doubt an old old science—as old may it be said as human civilization?

The subject at its beginning is lost in hoary antiquity India was the cradle of this science In Rig Veda we have ideas of metals and some verses definitely mention gold and silver as things to be prized in this world *

Chemistry always advanced as hand maiden of the more utilitarian subject—the science of medicine It is said that in those remote ages some terrible epidemic came over ancient India and the sage Bharadwaj (भरद्वाज) taking compassion on the sufferings of humanity went from this earth to heaven to learn the science of medicine from the Twin Brothers—the physicians of heaven the presiding deities of Castor and Pollux He came back to earth and imparted the knowledge of medical science to his pupil—the sage Agnibesh (अग्निवेश) From this personage all Indian knowledge of the healing art is supposed to be derived.

In old books of medicine chemical preparations were generally of vegetable origin and as time advanced mineral matters were taken up in the treatment of diseases

From India—China and other countries obtained their information of the healing art

In ancient Egypt too— the thrice great Hermes was the originator of medicine as well as of Chemistry

Knowledge is something which must not remain long in the obscurity of the individual mind—but will come out and enlighten others and thus knowledge spread out

In the time of the Trojan war we hear that bronze weapons were used and preparation of the

* "चत्वं ददासि द्रविणं ददिभ्यते यजमानाय सुन्वते"—ऋग्वेद

substance implies some knowledge of extraction of metals

Men, in all ages and all climates on acquiring a peaceful state tried to overcome two things—one is human death and mother hard work Men who tried to find out perpetual life searched for "elixir of life and those who wanted to enjoy the fruits of their idleness—thought of philosopher's stone' The history of alchemy is nearly the same in all places—there is the old mysterious writing about salt sulphur and mercury and transmutation of one metal into another

In search for elixir of life Paracelsus found out alcohol and drank it and found his death in the Cirrhosis of liver Bernard of Treves searched for philosopher's stone through a long life of 83 years, squandering his immense patrimony and in the end found the maxim that contentment is better than all the philosopher's stones in the world The first development was alchemy The next was the rise of the Intro chemists men who prepared many substances for use in medicine

In this way human progress was fitfully maintained—until modern chemistry originated The old speculations of Lucretius and Democritus came in new garb and the researches of many chemists found out many interesting elements—systematic study in order to find out new combinations of elements was carried on

The branch of organic chemistry received an impetus when it found out that many of the so called inorganic substances can originate substances which are invariably found out in association with life Wohler in 1828 converted ammonium cyanate by heat into urea and from this year the previously insurmountable barrier between things organic and things inorganic is gradually being broken up

The decomposition of binary compounds by electricity led a host of chemists to associate elements with electricity and thus the hard and fast line of demarcation between physics and chemistry is generally becoming fainter and fainter

The classification of elements attempted by Newlands, Lothar Meyer and Mendelieff and the modified idea of Johnstone Stoney gave a new direction to the ideas of atoms and molecules

From this time *i e* from 1877—the science of chemistry is co-ordinating its facts with the facts derived from investigation of physics and now the science of new chemistry began

Atoms and molecules-give way to complex systems and vortex motion in ethereal medium and in the midst of all changes the motion of the system is taken into consideration

The action of energy like pressure, heat electricity light &c on chemical substances was studied—and this led to the law of diffusion of gases to osmotic pressure to "dissociation, allotropism to phase rule to optical and crystallographic isomerism and to stereo chemistry These constitute generally the province of physical chemistry —a branch for the development of which Sir William Ramsay and others are trying their utmost

Dr Hall in his book on the correlation theory of chemical forces stated that in this universe there are only heat and light giving powers photothermal radiations as he called them and these act on plastic matter caused all the changes The modern researches of radio activity is opening new vistas in the domain of physics and chemistry Thus new chemistry is progressing—with it creation of wants which are not all readily satisfied

JITENDRA NATH SEN

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Restoration to Revolution—II.

1660—1700.

(*Continued from Page 244.*)

It is a far cry from the Elizabethan drama to the Restoration drama. This is how it came about. By the order of the Puritan Parliament, the theatres were closed in 1642. The Commonwealth began in 1649 and extended to the year 1660, when Charles II. was restored to his father's throne. During his exile, Charles had sojourned in France, and had developed a fancy for many foreign manners and fashions; so that when he came to England, he naturally looked up, for his own special likings, to the caterers of amusements. The English dramatist worked after the best French models of Cornielle, Racine and Moliere. The result was ineffective, artificial, and pedantic productions. The virtues were often exaggerated to a ridiculous extent, and vices painted with much too deep colour. The characters were either gods or devils. Even Dryden is not free from these defects, though his genius, to some extent, neutralized the blemishes. Then, the Restoration drama lacked invention. The gift of originality was no one's. The writers could cleverly adapt foreign plays, but they were rarely found to have whipped out an original plot. They lacked morality, too, and decency they set aside: this is peculiarly a French vice. Unlike the Elizabethan plays, in which, you can notice gradual and natural development of plot, the Restoration drama glories in intrigues and devices of situations. Then, in two more details, there were distinct advance—introduction of painted scenery and replacement of the boy-players for female roles by women-players. Before this a board, with the name of the scene of action written on it, was considered sufficient for the purpose, which is now served by painted scenery, With regard to the introduction of women-players, many regret the fact in this that the art of playing, as they say, has been half forgone. Portia would have been, under the Elizabethan custom, personated by a boy. In the disguise of Dr. Balthasar, the boy-Portia would be required to feign before the audience what he actually is; and counterfeiting oneself is far more difficult than counterfeiting another. In the first case, more art is required than in the second. "With the disappearance of the boy-players," says Sir Walter Raleigh,* "the poetic drama died in England and it has had no second life."

"Sir William Davenant," says Mr. Low, "is the first in point of time of the Restoration play-wrights, and he forms a sort of slight bond between them and the men of the earlier period." He was Shakespeare's godson. Though some of Davenant's works belong to the pre-Restoration period, yet latterly he contributed some good plays to enrich the literature of his country. His chief dramas are *the Siege of Rhodes*, published in 1656 & 1663 and the two comedies of the later days, *the playhouse to be let* and *The Man's the Master*. Otway's fame rests purely on his tragedies. Left an orphan, at an early age, by the death of his father, he tried the stage, for the means of subsistence; but he was unsuccessful as an actor. He then took to play-writing and in the midst of alternate joys and sorrows, he died in abject wretchedness at a coffee-house, it is said, while in the act of hastily gorging a loaf, bought of a begged shilling, after a starvation of days together. Otway's chief play is *Venice Preserved*, published in 1682, in which he makes a side-remark on the Popish Plot scare. This, with his other work *The Orpheus* constitutes his claim to immortality. Otway's peculiar power was in evoking pathos and other tender sentiments of the heart, by means of his coarse, vulgar style. He had also a sense of healthy humour and his scenes are natural and effective. His other works are not of much value. William Congreve was the keenest of English Comedians in the Restoration period; and his principal works are *Love for Love*, considered to be his masterpiece, published in 1695; *The old bachelor*, The

* A modern biographer of Shakespeare, who has given us an excellent, critical biography of the dramatist.

‡Davenant was also a poet, and his best known work is *Gondibert*,—published in 1651—a work now almost forgotten in spite of occasional passages of vigour and energy.

Double Dealer, and the tragedy entitled *The Mourning Bride* Congreve was endowed with the power of sketching a true and life-like character and of laying down a good plot His dialogues are brilliant and living, and the wits are healthy and original. His style is easy, and coarseness and vulgarity, the common features of the plays of this time, had their proper places in Congreve Farquhar's comedies are full of gaiety, vivacity animal spirits humour and manliness which again were the characteristics of the man himself his chief plays are *The Beaux Stratagem*, *The Recruiting Officer* and *Sir Henry Wildair*.

The prose literature of the period was as rich as the poetry It embraced a variety of subjects physical and natural sciences, theology and politics The Royal Society was established in 1662 and the principal personage connected with this celebrated band, was John Wilkins* whose ardour for the advancement of scientific studies remains unquestionable

The celebrated Sir Isaac Newton was a most active member of the Royal Society This society cultivated a big area in which were sown Astronomy Chemistry Medicine Physiology, Botany Zoology Mineralogy as also metaphysical branches of knowledge Newton's *Principia* appeared in 1687 Robert Boyle the discoverer of what we know as Boyle's Law, was a voluminous writer on metaphysical and scientific subjects His *The Origin of Forms and Qualities* is a disquisition on what is called in philosophical parlance Final Causes, John Ray's chief work is in Latin but his other works on metaphysical subjects are in English, *e.g.* *The Wisdom of God manifested in Creation* and *Physico Theological Discourses concerning Chaos the Deluge and the Dissolution of the World* John Evelyn dealt with diverse subjects his *Sylva* (Forest trees) *Terra* (Earth) and *Acetaria* (Salletts) are fairly well known Years after his death his *Diary* was published in which are included all his works worth preserving as a permanent property of the *literati*

Theological controversy was maintained by Edward Stillingfleet[1], William Sherlock[2], and Robert South[3], and the business of preaching was in the hands of Isaac Barrow[4], Cudworth's treatise on *Intellectual System of the Universe* published in 1678, is a reply to the reasons of the atheists to called

The theory of Divine Right was quite the rage among the Stuart Kings It received a smart shock during the Civil War, and in literature, this took the shape of disquisitions on politics and governmental questions In 1680 Sir Robert Filmer* brought out his *Patriarcha*, supporting the theory of Divine Right James Harrington's *Oceana* published in 1656 is a project for an ideal republic based on speculative principle and is substantially absurd. Algernon Sidney's[1] discourse on Government dated 1698, is a refutation of Filmer's theory embodied in 'Patriarcha' John Locke gave us his treatises on *Government* in which he improved upon Hobbes' idea Locke is also responsible for *Letters on Toleration*, a work advocating liberty in religion and *Essay concerning Human Understanding*

But the greatest prose writer of this period next if at all to any one to Dryden alone was John Bunyan[1] His *Pilgrim's Progress* dated 1678 is as widely known throughout the entire educated World as Thomas a Kempis Imitation of Christ is It has been translated into many different languages and no other English work, except the Bible has been honoured with so many lingual versions The style is fluent, chaste and graceful to an extraordinary degree The artless manner in which Bunyan tells his tale takes you and you wish he would go further on and never come to an end This was what the fastidious critic Dr Johnson said of *Pilgrim's Progress* and indeed it is a commendation, warranted by experience The remarkable manner in which the allegory is maintained is truly creditable to the author, who had strength enough not to flag in an attempt, which might have proved fruitless in the case of smaller men The abstract qualities have been personified and the 'shadowy personages' walk about and

* 1614-1672 His chief works are *The Discovery of a World in the Moon* (1638) and *An Essay towards a real character and a Philosophical language* (1668)

1 1635 99 2 1641 1707 3 1633-1716 4, 1630 1677

* Died 1653

1, 1622 1682 2 1632-1704 3 1628-1688

appear before us as human beings in flesh, blood and bones. Bunyan is also the author of *Grace Abounding*, a religious autobiography, and *Holy War*, an allegory of graceful and exhilarating style

Samuel Pepys is another great diarist in English, his *Diary* being published in 1725 Edward Hyde, Earl of Clarendon was the author of *History of Great Rebellion*, published 1702-4 This work is one of the very best treatises on English history

I shall end this fairly lengthy review with Sir Roger l'Estrange who was appointed licenser of the press in 1663 Journalism, which had its inception during James I's *regime*, had gone up in rapid strides so much so that a licenser was found necessary. Sir Roger was given the office L'Estrange edited 'Oxford Gazette' which is now called 'London Gazette', and which is, at present the official organ of governmental news and notifications Besides his journalistic works, the Licenser of the Press made out a version of *Æsop's Fables*, which is greatly admired.

AJAX

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WITH AN INDEX

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REVIEWS AND MINOR NOTICES.

STRUCTURAL BOTANY by Prof H N Mitra M.A., of the Bangabasi College, with an Introduction by Principal G C Bose M.A., I.C.S. M.R.A.S., Calcutta. (S K Lahiri & Co —Part I, Price Rs 2/-)

This excellent little Volume is the first part of Prof Mitra's botanical works in which have been incorporated much of his labours in the field of Botany Prof Mitra needs no introduction to our readers as some of his valued contributions—botanical as well as literary have from time to time appeared in this Paper As a forcible writer and a most systematic and thorough going teacher Mr Mitra has earned a most deserving reputation and esteem from his pupils and the public alike. The fragmentary articles On the Influence of Environment which appeared in two former issues of the Journal are two of his best productions and have been spoken of in very high terms by the public here and abroad The book under review is indeed fascinating One feels a great deal lighter and at home when one turns from the ordinary English continental Books on Botany to his works The Honeysuckles and Forget me nots cited as common examples in our English Botany books are more apt to make students forget most of what they study than forgive this pardonable choice of example It is a great relief with which we read Prof Mitra's book illustrated as it is with common Indian plants and copiously furnished with examples of indigenous plants of our country

Prof Mitra has done a great service to Students of Botany—Indian students in particular—in giving the synonymous vernacular names current in the different provinces of India side by side with the botanical names of the plants This will no doubt help students a great deal in learning the names of plants in the sister provinces and many persons interested in Botany in as much as this device will render it easy for them to learn the flora of distant parts of India The preface by Principal Bose has stamped the book with an unique authority for Principal Bose is the recognised head of the leading Botanists in Bengal We have no doubt the book would be recommended as a text book by the Indian Universities The printing, paper and general get up of the book are excellent

---

THE SCIENCE OF HISTORY AND HOPE OF MANKIND by Prof Benoy Kumar Sarkar M.A. of the National College, Bengal (Longmans, London *2s 6d net*)

The present work, as the author writes in the Preface, is based on the Lectures on the Science o

History which he delivered to his classes in History at the Bengal National College, Calcutta. His object was to survey, not historically but according to the philosophico-comparative method, the phenomena of civilisation and point out the laws of generalisations that may be deduced out of the facts of universal history. Human civilisation like physical facts and phenomena, requires to be studied in such a way as to lead to the detection of uniformities in the sequences and co-existences of social events and movements. History has to be put on the same level with physics and other natural sciences, so that predictions may be possible in the social world as in the physical.

We cannot but quote Section VIII of the book in which the author says "Recapitulating, then, the lessons of the Science of History founded on Biology, we find that neither literary movements nor political agitations, neither the acquisition of liberty nor expansion of territories—in fact, none of the various aspects of national life are absolutely dependent on the particular people concerned, all are products and *resultants* of the mutual influences of all nations and national activities on one another, so that types of national character are moulded through constant interactions and intercourses of life and thought In the second place, these international actions and reactions assume different aspects in different times and thus give rise to different nationalities of the human race and *different types* of national characteristics In the third place, the *manifestations of life* that give rise to various national types and different national characteristics are always varying both in form and spirit according to the varying conditions of the world. So that so long as man will be able to adapt his movements to the varying circumstances of the environment, there is no need of despair for the progress of humanity

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History of England by V A Smith (Oxford 3s). This little book, produced by the masterpen of Mr V. A Smith, the author of 'the Early History of India' is specially useful to the Indian students for whom it has been intended

The plan of the book is quite new The author has succeeded in explaining many things not familiar to the boys of our country. Many terms of the English History have been made intelligible by the use of their corresponding terms of the history of our country, such as Bretwalda corresponding to our Raj-chakravarti or Mohamandhiraja, 'hundreds' to our porgana. The Druids and the gentry of the early times have been compared with the Brahmin and Khatriyas of early India. A comparison has also been drawn between Alfred and Akbar, and many unfamiliar happenings of Europe have been illustrated by the more familiar facts of the history of our country.

The book covers the entire syllabus of the Madras University We have therefore every reason to hope that the authorities of the said University will recommend the book.

Essentials of Psychology by S Radhakrishnan M A, Assistant Professor of Philosophy, Presidency College, Madras. (Oxford, Re. 1/-).

This publication as the author declares is the outcome of a course of lectures the author happened to deliver to a University class on Psychology Only the fundamental principles are discussed and the author's idea is to enable the student to acquire an interest in the subject The binding and get up of the book are excellent

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The "Theosophist Office Publications

Text Book of Theosophy by C W Leadbeater (Re 1) An interesting little manual written by one who is evidently a master of the subject and knows how to communicate information

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INDIAN INDUSTRIAL AND ECONOMIC PROBLEMS by Professor V. G. Kale, of the Fergusson College, Poona, is the latest handy rupee publication of Messrs. Natesan & Co.'s. The volume is a collection of Professor Kale's papers before the Indian Industrial Conference and articles contributed to periodicals and journals. Among the subjects treated are the present economic condition of India, the problem of high prices, twenty-five year's survey of Indian industries, the labour problem in India, high prices and currency, protection, Swadeshi and boycott. They are not discussed in a superficial, or perfunctory, or prejudiced manner; they are considered with impartiality and ability which those familiar with Professor Kale's writings know to be their feature.

ALLAN O. HUME THE FATHER OF THE CONGRESS MOVEMENT (4 As.) This little volume forms one of the books of the "Friends of India" Series. This is a new series of short biographical sketches of eminent men who have laboured for the good of India and are so written as to form a gallery of portraits of permanent interest to the students as well as to the politician. On the cover of each volume is printed a portrait of the subject of the sketch.

THE PANSY PATCH: Stories for children at home and at school by Alice M. Chesterton (1*s.* 6*d.*). These stories are written for children from seven to nine years of age. The Publishers have succeeded excellently in their attempt. The binding and get up as it is with all Messrs. Nelson's books for children are all that could be desired.

ELEMENTARY QUANTITATIVE ANALYSIS by Wm. Briggs and H. W. Bausor (University Tutorial Press, 2*s.* 6*d.*). The treatment throughout is all that could be desired and thoroughly in accordance with the modern methods. Altogether the book is a distinct advance on many other similar publications. It can be very strongly recommended.

LABORATORY TEST CARDS I, II & III Years by John Don and Hugh Jamieson (University Tutorial Press. Price 1*s.* net for each year). The first year course includes measurement of matter, the second year course Heat, and the third year course Chemistry. All these can be very easily done by our Intermediate students in their Practical Classes.

THE PATH OF SERVICE:—An address delivered the Youngmen's Christian Association at Karachi on April 8, 1912 by Prof. T. L. Vasvani M. A. An excellent little pamphlet putting forth the ideas of a highly philosophical mind in a forcible manner.

QUERIES

The 14th canto of the Raghuvamsa forms a part of the Intermediate Course in Sanskrit in the Calcutta University. There is a very difficult sloka in the canto.

निशम्य भानन्यनिधिं वाच
मुवाच पत्नीः परिमाष्टु मौक्षत ।
अपि स्वदेहात् किमुतेन्द्रियार्थात्
यशोधनानां हि यशोधरोयं ॥

Here Ram Chandra, the ideal man, is represented as regarding his wife as merely an इन्द्रियार्थ. Says Mallinatha: –

इन्द्रियार्थात् सकृच्चन्दन वनितादेः इन्द्रियविषयात् ।
सीता च इन्द्रियार्थ एव ॥

Was not this a "selfish idea"? Does this reveal an ennobling view of woman kind, as held by Kalidasa?

I draw the attention of the Professors of Sanskrit to this *sloka* and request them, if possible to justify Kalidasa. The ordinary keys did not help me to understand the verse.

"STUDENT".

PROBLEMS

38. Find the centre of a given square without drawing any straight line.

39. Given the sides of a cyclic quadrilateral, construct it.

40. The opposite sides AB, DC and BC, AD of a quadrilateral ABCD meet in P and R. The diagonals AC, BD intersect in S. Prove by first book methods that the lines joining the middle points of the diagonals of the quadrilaterals BSCP, DSCR and ABCD are concurrent.

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SCIENCE NOTES

AND OTHER INTERESTING ITEMS.

Life made to order Nature replaced by the laboratory

Is it possible to produce life by artificial means? Recent remarkable discoveries, and particularly the declaration of Professor Loeb, of the Rockfeller Institute, New York, that it will be possible, have caused the *Matin* to ascertain the opinion of several famous French scientists on the subject.

Dr. Carrel, the biologist, declares that he is confident that sooner or later science will be able to create living things.

"The problem of the artificial creation of albuminoid substances which are kindred to living matter has almost been solved" he said. "Hence the dav is not far distant when one will arrive at producing protoplasma. It will not be easy, however, to animate this living substance, for we know nothing of the mysterious mechanism of life.

"We have to discover the how and the wherefore of cellular tissues, and their growth and development, and what salts and physico chemical agents affect their existence. When these problems are resolved others will no doubt present themselves, but it is very probable that the day will come when science will discover the mystery of life, and that it will consequently be possible to create living thing."

M. Armand Gautier, the great French Chemist, does not share this view. Chemically it may be possible, he thinks, to obtain living matter, but he does not believe that man will ever be able to fashion it into cells which would multiply in a determined order, so that the substance would take the form of a living being.

Dr. Gustave Le Bon does not think the problem incapable of solution. "The great difficulty," he said, "is that so far man has only studied the chemistry of dead things. 'Living chemistry' has not yet been taken up.

"Life flows on, and in the present condition of science it can only be studied by stopping its course for an instant but however short this instant of stability, it is no longer life that one is experimenting on."

History in postage stamps Portraits of Russian monarchs

The designs of the new Russian postage-stamps to be issued next year in commemoration of the tricentenary anniversary of the Romanoff dynasty have been completed, and placed in the hands of the Crown printers. The 1-kopek stamp (orange) will bear the portrait of Peter the Great, the 2 kopek (green) that of Alexander II., the 3-kopek (rose) Alexander III., the 4-kopek (red) Peter I., the 7 and 10 kopek (blue the portrait of the reigning Czar Nicholas II., the 14-kopek (olive) Katharine the Great, the 15-kopek (light brown) Nicholas I., the 20-kopek (brown) Alexis Mikhailovich, the 25-kopek (olive) Alexander I., the 35 kopek (dark blue) Paul I., the 50-kopek (brown) the Empress Elizabeth Petrovna and the 70-kopek (bright green) the portrait of the first Romanoff, Michael Feodorovich. The rouble stamp will bear a picture of the winter Palace in St. Petersburg. The Russian postage stamps have never hitherto borne portraits of the Czars or Czarinas. The process of postal obliteration was deemed derogatory to the dignity of the Imperial effigies.

Ideal science Textbooks

"VERY objective in its treatment, it skilfully utilizes the familiar, and works Socratically; it is demonstrative rather than informative giving the reader the delicious illusion that he is himself at work building up the science of plant physiology; it has a masterly simplicity of style, showing what a lot can be made of relatively simple experiment."—These words are a quotation from an able review of Prof. Timiriazeff's "Life of the Plant," which has just been issued in an English translation. We give them partly to call attention to a book which many teachers will find useful, partly as a good, concise statement of what a school science book should be. *O si sic omnes!*

A strange Subject of Instruction

There is much of tragedy in the thought that hitherto the great army of workmen has been recruited without any regard for the natural capacity or the will of the recruits. Yet the iron law of supply and demand imposes a limit upon freedom in the choice of a trade. On the economic question, however, we may not dwell, let us rather tell of a strange form of vocational instruction obtaining in America. Boston has been for five years teaching "salesmanship and saleswomanship"—or how to vend wares. This winter the Young Men's Christian Union is having a course at which real, expert salesmen sell real goods to real

purchasers, while the students look on A different "line of goods" is offered every evening. The students watch the process and make notes upon it. When the selling is over they are allowed to ask questions and, if there is any delicate point of *finesse* that they have failed to notice, it is brought to their attention We suggest that a moralist should be present at the instruction lest haply teachers and pupils should confound the art of persuasion with the art of deceiving

Massage for naughty children

The Japanese think children should not be punished for being naughty in school, as they consider laziness and disobedience are due to bad health In many schools such children are set aside from class and massaged We have no doubt that there are degrees of vigour in the operation and can easily understand that Japanese boys and girls are not particularly anxious to be massaged by a teacher they have annoyed A course of massage may or may not benefit the health but it is certain to make a child regret misbehaviour

Vocationalism

Vocationalism continues to be the dominant note of educational progress in the United States Chicago would seem to be the chief centre of the movement to further it But everywhere it spreads. A resolution passed at the last meeting of the Pennsylvania State Association emphasized the need of vocational training for that great majority of children whose educational opportunities cannot extend beyond those furnished in the public schools Whether the formal education of a child were to end on his fourteenth birthday or at some other time before ripeness for college he ought said the Association, to receive *the best preparation for efficient life* that can be devised At Peoria Illinois a special organ *Vocational Education*, is published The Educational Conference of Boston recommended that the department of vocational guidance at Boston should be enlarged and more effectively organized with a Director of Educational Guidance at its head Vocational guidance, it will be remembered aims at fixing the mind of the child, from the earliest possible moment, upon the deliberate choice of a vocation and upon the means of preparing himself for it The American boy will not, on leaving school, suddenly decide to become, for example, a cabinet-maker He will have been a cabinet-maker *in spe* from early childhood.

CUTTINGS

Mr Asquith's Speech *at the 250th Anniversary of the Royal Society London*

The 250th Anniversary of the Royal Society is appropriately commemorated in this Guildhall. For 'the Royal Society of London for the Improving of Natural Knowledge,' to give its original title, though it has become eminently a national institution, has at the same time peculiarly close associations with the City of London, (Cheers). In the first charter which I think, was signed 250 years ago yesterday permission was given to the Society to "assemble in a college or other public place or hall within our City of London or in any other convenient place within ten miles of the same When the Universities were engrossed in the din of the Civil War 'to the neglect,' as a contemporary writer says 'of academical studies,' science and philosophy took refuge in the comparative peace and tranquility which the streets of the City of London could then afford (Laughter) The troubled reign of Charles I gathered to London—I again quote contemporary words—divers worthy persons inquisitive into natural philosophy and other parts of human learning," men whose imagination and enthusiasm had been fired by the 'New Philosophy' then recently propounded In the later days of the Commonwealth their meetings were held for a time in my own University of Oxford at Wadham College, of which I am glad to see the Warden here to night, and after the Restoration they found their headquarters within a few hundred yards of this hall at Old Gresham College which was the birthplace and cradle, and for some time the regular place of meeting, of the Royal Society

The Influence of Bacon

The record of the Society begins, I think justly, with a tribute to the influence of Francis Bacon whose fertile mind not only conceived the advantages of a college co operating in the investi-

gation of natural philosophy, but also in his "New Atlantis," outlined a practical plan for its foundation. As Mr. Balfour said recently, Bacon's great service to science was that 'he created the atmosphere in which scientific discovery flourishes" From the publication of the 'Novum Organum" we may trace a steady and an ever increasing interest in the experimental sciences, and Bacon's scheme finally found realization in the incorporation of the Royal Society Its proud motto "Nullius in Verba," reproduces the true spirit of what is best in Bacon's teaching But if the Society can trace its spiritual ancestry to Sir Francis Bacon, the actual figure of the pious founder is to be found in a very different quarter Strange as it may seem, the Royal Society is to-day the most vital if not the most characteristic monument of King Charles II (Laughter and cheers) Whether the interest in anatomy displayed, as your records show by the Society in its earliest years was due to the proclivities of its Royal patron, I do not know (laughter) but certain it is that Charles II, not only found the Society but he took an active interest in its proceedings and frequently asked for its advice And he could not have found a body more representative of the best and the widest culture of his time

THE ORIGINAL FELLOWS

When one looks over the list of the original Fellows what strikes one is the width and the universality of the interests represented Science could not then, whatever may be the case now be charged with being the preserve of specialized studies With Robert Boyle, John Wilkins, Robert Hooke—scientific men, in our somewhat narrow use of the term—there comes Sir Christopher Wren, that early prodigy as he is called, of universal science, astronomer, physicist, physiologist as well as our greatest architect perhaps the most versatile intelligence that Europe has seen since Leonardo da Vinci—Cowley and Dryden, Denham and Waller better known to posterity as poets than philosophers—Evelyn, Aubrey, Petty, and a host of others, whose names recall the spiritual and intellectual wealth of an epoch which we are wont unfairly to decry. In the same roll with John Dryden is one of the chief victims of his satire, George Villiers, Duke of Buckingham, who amid his various qualifications for the chief office of State was, as we known, "chemist, fiddler, statesman and buffoon" And I see from your records that history tells us that when this perhaps the most original of the original Fellows of the Royal Society was committed to the Tower, a special laboratory was fitted up for him there in order that he might practise chemistry, and according to Bishop Burnet, he was 'nearly' successful in discovering the philosopher's stone—an illustration which suggests that some people might be more profitably employed at present than either at Westminster or Whitehall (Laughter)

(To be Continued)

Diet in Schools—III

(Continued from Page 248)

It is something of a bathos to descend from the "school laid up in the heavens" to common earth and read Mrs Stanley Hazlet's practical suggestions for middle class boarding schools She urges that the catering for a whole school should be in the hands of one person and that this person should be preferably a matron holding the full diploma of a recognized school of cookery. The master's wife has too many other duties to attend to, and a steward, however competent in other respects as a rule knows nothing of cooking which is speak'r after speaker urged is *die Hauptsache* Lastly, Miss Michaelis showed how at King's College women are now being trained in hygiene and physiology and so qualified for such institutional work

If only by directing attention to flagrant and easily remediable abuses of diet the Conference will have done much good, and we hope that it will be followed by another dealing with the feeding of elementary scholars There were present faddists and Monsieur Josses not a few, but the principal readers of papers and speakers were able and disinterested men and women of science and the reactionaries who contended that, like Sydney Smith, they had "strictly meditated the muse on a little oatmeal," were out of court

Journal of Education

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VOL. II **THE COLLEGIAN** No. 10

All-India Journal of Education

CALCUTTA SATURDAY, AUGUST 31, 1912

Future of the Sibpur Engineering College

At the annual distribution of prizes at the Sibpur Engineering College the Hon'ble Mr. P C Lyon made an important announcement as to the future of the College and of industrial training in Bengal He said that the Committee appointed in January had recommended that the present College should be removed from Sibpur, that a Technical College should be established in the heart of Calcutta and that independent of this Institute a well equipped residential Civil Engineering College should be established in Bengal. An apprehension had been expressed that the changes proposed might include the abolition of the present College of Engineering so far as Bengal was concerned an establishment of some great Central College of Engineering elsewhere in India at which students from all parts of India would be trained together The question which presented itself to the Government of Bengal was however one of transfer and not of abolition

Speaking of Dacca as the probable site, he said —

The choice of a site for such a College, however, is less easy to determine There is not the same necessity for establishing such a college in the close neighbourhood of a great industrial centre as there is in the case of an industrial institute, and there are, as you well know, some obvious drawbacks to the foundation of a new residential college within Calcutta itself At the same time the College will be small as to numbers but will require completely equipped laboratories, chemical, physical and

[redacted]

industrial, and it must therefore be associated to some extent with other educational institutions which will make use of such laboratories We have accordingly taken into our consideration the advice that has been urged upon us, in the Press and elsewhere, and have asked the Dacca University Committee to consider whether a scheme for a Civil Engineering College can be suitably evolved as part of the general scheme for the new residential University at Dacca

We are thankful to Mr Lyon, for the assurance that the College will not be abolished Regarding Dacca as the probable site, we are afraid, it would be the most unsuitable place for an Engineering College. True it is, that the chemical, physical and industrial laboratories of the Engineering College at Dacca would be much useful to the School of Engineering and the Industrial Institute there But, we have already enough of physics and chemistry in the Sibpur Engineering College, which now turns out every year "Theoretical Engineers"—the term applied to Sibpur men There is much room for improvement in the engineering subjects taught at Sibpur, especially practical portion Calcutta or one of its suburbs is, in our opinion, the fit place for the College Here the students may, at any time, examine with their own eyes (which is the most important thing a Engineering) all modern and new methods of building construction *e g* ferro-concrete new methods of brickmaking steel structures etc Besides these, Calcutta being a Railway centre an week-end would suffice for occasional Engineering excursions to study the biggest Engineering constructions, *e g* the Kalimati Iron works construction of Railways and Bridges, etc But isolated Dacca, by its most backward position is totally inable to offer any of these facilities to the student engineer We hope the Government will fully consider the matter before any final decision

* * *

Government and the sectarian Universities

Elsewhere our readers will find in full Sir H Butler's letter to the Hon'ble Raja of Mahmudabad and the Hon'ble Maharaja of Darbhanga The letter clearly sets forth the intention of the Government. The Government recommends that the names of the Universities should be Aligarh and Benares, evidently with a view to prevent other sectarian universities springing up We are not much opposed to this change as it is simply a sentimental one But the two most important points which vitally affect the scope and constitution of the University are (1) limiting the power of affiliation within the locality (2) the powers vested in the chancellor to be exercised by Governor General in Council The scope need not be limited from the beginning. There will be no conflict with the older territorial universities Only new colleges founded by men wishing to run them in accordance with the ideals of the new universities will after all be affiliated As the two universities are meant to be all-India ones there is no harm if the Viceroy be the Chancellor How can the powers vested in the Chancellor be exercised by another body? Then what powers will remain with him?

* * *

Mahomedan Education Conference at Poona

His Excellency Sir George Clarke opened the conference at Poona on Aug 7 Delegates from important cities in Deccan were present Among those present were Mr Justice Shah Din of the Punjab Chief Court the Hon Mr Claude Hill General Sir Arthur Barrette the Hon Mr Prior. The Hon Moulvi Rafiuddin Ahmed, Secretary to the conference in welcoming His Excellency, said this was their fourth conference the objects of which were first, to bring together annually the wise heads of their community to take counsel together regarding Mahomedan education, and secondly to bring to the notice of Government the educational requirements of their community He trusted the presence of so many distinguished statesmen there that day was an earnest of the sympathy of Government with the cause of Mahomedan Education.

His Excellency Sir George Clarke in addressing the conference said he noted with pleasure that the Mahomedan community had made notable advances during the four years he had been in India. There had been a visible awakening of

the needs of education which should lead in the direction they wished to move and they possessed a Moslem organisation which, if directed consistently on sound lines, must go far in uplifting the Mahomedans of India and winning for them their rightful place in the nation that is still to be born From his point of view the awakening of the spirit of a new life was of infinitely greater importance than anything which Government had done or could have done for them What had Government done for the Parsis but given them law and order where chaos once reigned? The moral was plain for them to read If the Mahomedans had dropped back in the race they could regain all and more than they had lost by adapting themselves to the age This conference was a favourable omen His Excellency spoke of the efforts to establish a Mahomedan University and of the munificent contributions of Sir Currimbhoy Ibrahim to the Royal Institute of Science and his thoughtful provision for special scholarships which would prove of immense value to Mahomedan students His Excellency strongly advised his hearers to have nothing to do with compulsion at the present premature stage in the development of education and concluded with words of well meant advice

Mr Justice Shah M Din after departure of His Excellency made his presidential address

Resolutions were passed urging (1) extension of education amongst girls, (2) raising the Poona camp school to the status of a High School (3) establishment of separate Government inspecting agency under an educational Inspector for Urdu Schools in the divisions of the Bombay Presidency not so provided, (4) establishment of an Urdu Training College for the Bombay Presidency (5) allowing all first grade Urdu schools to teach English up to the third standard, (6) increasing the number of Mahomedan members of the Text-Book Committee and (7) prescription of an Urdu course for all Middle High Schools with Urdu teachers.

* * *

Ceylon Education Committee's Report

The Ceylon Education Committee have issued their report The recommendations are extensive including a "University College for Ceylon and a large Council of Education The Committee has exposed the great deficiencies in Ceylon Education including the inadequacy of the D P I's staff, and also the small amount—in proportion to its total revenue—which the Government sees fit to spend upon Education

Relating to the establishment of a University it says —

> This Committee cannot be expected to map out what the courses of instruction in such an institution should be This must be left to its own Council and Board of Studies It will issue its own diplomas and in the future it will no doubt examine for them In the earlier stages of its existence it will have to seek for assistance in its examinations from some English university. During this early period we see no reason why its pupils should not take up the external examinations of the London University The entrance scholarships for which we have provided in our estimate of the cost of the college, should be awarded on the results of the higher leaving certificate examination, but an arrangement should be made by which they should be fairly distributed among the various Provinces The present English university scholarships should be retained, and awarded to those students of the University College who are best qualified to take post-graduate courses in Europe"

While the neglect of vernacular education cuts off the people of Ceylon from their past traditions, the opposition which we see being urged against commercial education says the "Ceylon Patriot" is calculated to keep them from moving along the lines of modern progress The Government and the Education Commission have therefore to be congratulated on their making some provision for commercial education not only in elementary and secondary schools but in the contemplated University College The objection to the vernaculars and to commercial subjects in secondary schools arises from the same inevitable source, viz. the undue importance that is being attached by some public men to Western classics

* * *

Sir Ashutosh Mukerjee, presided over a very largely attended meeting of the friends, admirers and expupils of Professor H M Perci-

Percival Memorial

val late of the Presidency College held at the Calcutta University Institute

Sir Guru Das Bannerjee in response to the chair proposed the following resolution —1 That this meeting desires to place on record its deep sense of gratitude to Mr H M Percival who is Professor of the Presidency College and a Fellow of the Calcutta University served the cause of higher education in Bengal for more than thirty years with great ability and devotion and has won the affection and respect of his pupils by his unique scholarship and loving care as well as by the deep sympathy he felt for them

In doing so, Sir Guru Das paid an eloquent tribute to the worth and abilities of Professor Percival

The resolution being duly seconded and supported was carried with acclamation

The meeting next adopted a resolution deciding to raise a memorial to commemorate his services in a befitting manner A general committee was appointed

Mr R D Mehta, proposed a vote of thanks to the chair

Mr N C Chunder, M A on behalf of the students, seconded the resolution and in doing so said that it was much to be regretted that not a single European had attended the meeting

The resolution was carried with acclamation and the meeting then separated

* * *

A deputation of gentlemen interested in the Telugu language and literature waited on the Government The deputation s repre-

Reform of Telugu.

sentations were directed against the attempt that was now being made by some to reform the Telugu language and literature The attempt was two fold, viz to cleanse the literature of obscenity that was supposed to exist in it and also to stimulate the growth of the language by bringing down the standard of its literary composition to that of the spoken dialect His Excellency accorded the deputation a long and patient hearing and in the course of his reply said that Government would adopt a neutral attitude with regard to the publication of Telugu literature and, if possible, would strengthen the Text-Book Committee in order that all shades of opinion be represented on it He promised that all their representations would have due consideration at the hands of the Government

* * *

The Madras Government have approved the proposals of the Director of Public

Elementary Education Madras

Instruction to train an extra batch of students of the lower elementary grade in eight aided training schools for masters

The Director of Public Instruction has proposed to award the following number of scholarships in the current year (i) 330 scholarships of the value of Re 1 per mensem each tenable in standard IV of elementary and secondary schools (ii) 120 scholarships of the value of Rs 2 per mensem each tenable in standard V of higher elementary schools (iii) 60 scholarships of the value of Rs 2½ per mensem each tenable in standard VI of higher elementary schools (iv) 65 scholarships of the value of Rs 3 per mensem each tenable in standard VII of higher elementary schools (v) 60 scholarships of the value of Rs 3 per mensem each tenable in Forms I to III of Secondary Schools The above scholarships have been distributed among the three Inspectresses of Girls Schools for award to pupils reading in Girls Schools in their Circles and instructions have been issued to them to award these scholarships in such a way that the expenditure during the current official year and for the next official year shall not exceed Rupees 10 000

Crown Quarto pp 408

THE COLLEGIAN VOLUME I.

WITH AN INDEX

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CALCUTTA UNIVERSITY.

List of Paper Setters for 1913.

MATRIC. EXAM. 1913

English: Hon'ble the Vice Chancellor, H R. James Esq. J. N Das Gupta Esq, Rev. Father J Powers s j.

Mathematics Hon'ble The Vice Chancellor, Dr. Syama Das Mukherji, Babu Kali Pada Basu

Mechanics Babu Haran Chandra Banerjee and A. Thomson Esq.

Sanskrit Babus Nrishingha Chandra Mukerji Bhagavat Kumar Goswami and Hari Charan Ganguly Sastri (In consultation with the Hon'ble Vice Chancellor and Dr Thibaut.)

Pali. Mahamahopadhyay Dr S C. Acharyya Vidyabhusan, C. Durviselle Esq and Babu Nilmani Chakravarti.

Arabic: Shamsul Ulama Ahmad, Maulavi Muhummad Musa and Shamsul Ulma Kamaluddin Ahmad (to be moderated by Col C L Peart)

Persian: Shamsul Ulama Kamaluddin Ahmad and Shamsul Ulama Rahim Zahid (to be moderated by Col. C. L Peart)

Greek. Rev. R. Gee and Rev. A. B Johnston

Latin: R. C. Bonnerji Esq, Rev. W. S. Urquhart, and Rev. A. B Johnston.

French: Dr. Thibaut, Rev. Father E Francotte S. J. and G. Le Francheui Esq.

Bengali Composition: Babu Dinesh Chandra Sen, and Mahamahopadhyay Dr. S. C. Vidyabhusan (In consultation with the Hon'ble Vice Chancellor) For Female candidates:—Babu Dinesh Chandra Sen and Jogindranath Basu.

Hindi Composition. Dr. Thibaut and Babu Puran Chand Nahar. For Female candiates Dr. Thibaut and Pandeya Ramavatara Sarma.

Uriya Composition: Babus Madhu Sudan Das and Kasi Nath Das. For Female candidates —Babus Madhusudan Das and Kasinath Das

Assamese Composition. Srijut Nabin Chandra Bardolai and Srijut Padmanath Barua.

Urdu Composition: Maulavi Ghulam Yazdani and Maulavi Muhummad Mustapha Khan.

Burmese Composition W. G. Wedderspoon Esq and Yen wun sein Esq.

History Babus Adhar Chandra Mukherji and Bepin Behary Sen.

Geography. Babu Braj Mohan Majumdar and Rev. W. G. Brockway.

INTERMEDIATE EXAMINATION 1913.

English H. Stephen Esq., H. R. James Esq., and J. N Das Gupta Esq (In consultation with Hon'ble The Vice Chancellor.)

Alternative Paper in English: H. Stephen Esq. and J. N Das Gupta Esq. (in consultation with Hon'ble the Vice Chancellor)

Bengali Composition: Babus Dineshchandra Sen and Kokileshwar Bhattacharyya.

Hindi Composition Dr. Thibaut and Pandeya Ramavatara Sarma.

Uriya Composition: Babu Kasinath Das and Mahamahopadhyay Sudasiva Kavyatirtha.

Assamese Composition Srijut Hem Chandra Goswami and Srijut Nabin Chandra Bardolai.

Urdu Composition: Maulavi Ghulam Yazdan and Maulavi Muhummad Mustapha Khan.

Burmese Composition W. G. Wedderspoon Esq and Yen Wien Sein Esq.

Bengali (for female candidates) Babu Dinesh Chandra Sen and Jogindra Nath Basu.

Sanskrit. Mahamahopadhyay Dr. S. C Vidyabhusan, Mahamahopadhyay Kali Prasanna Bhattacharyya and Babu Muralidhar Banerji (In consultation with Hon'ble the Vice Chancellor and Dr. Thibaut)

Pali : Dr. Thibaut, Mahamahopadhyay Dr. S. C. Vidyabhusan and Babu Rebatinath Chatterji.

Arabic : Shamsul Ulama Ahmad and Shamsul Ulama Abu Nasr Muhummad Waheed and Dr Abdulla Al Mamoon Suhrawardy (to be moderated by Col. C. L. Peart)

Persian : Shamsul Ulama Mirza Ashraf Ali, Bahadur Rahim Zahid Esq and Maulavi Kazim Shiragi (to be.....)

Chemistry : Rai Chunilal Bose Bahadur, Babu Chandra Bhusan Bhaduri and Babu Jatindra Nath Sen.

Mathematics : Hon'ble the Vice-Chancellor Dr. Syamadas Mukherji and Babu Indu Bhusan Brahmachari.

Physics C. W. Peake Esq, R S. Trivedi Esq, Dr. D. N. Mallik.

Botany . Dr. Bruhl, S. C Mahalanobis Esq and Dr. Girindra Nath Mukherji.

Geography · W. H Arden Wood Esq, W E Griffith Esq and Babu Jnan Chandra Ghosh

Physiology . Dr. Nilratan Sarcar Rai Upendra Nath Brahmachari Bahadur and Captain D.MacCay I. M. S.

Latin : W. C. Wordsworth Esq, R C Bonnerji Esq and Rev. E. J. Thompson.

French : Dr. Thibaut, Rev Father Francotte S.J. and Gaston Le Francheur Esq

History . M. N. Basu Esq., Babu Bepin Behary Sen and W. A. J. Archbold Esq

Logic : H. Stephen Esq, J R Banerji Esq and Babu Adhar Chandra Mookherji

B. A. & B. Sc. Exams 1913

English (Pass) : H R. James Esq, J N Das Gupta Esq & Rev Father E O'Neill s j

English (Hon) · H R. James Esq, J. N Das Gupta Esq., T. S. Sterling Esq, Rev. Father J Power s.j. A C Mc Waters Esq, I. C. S, Rabindra Nath Datta Esq

Advanced Paper in English : Mr Heramba Chandra Maitra and Rev E. M. Wheeler.

Bengali Composition : Babus Akshay Kumar [illegible] and Dinesh Chandra Sen (in consultation with Hon'ble the Vice Chancellor).

Hindi Composition : Pandeya Ramavatar [illegible] and Babu Somnath Jharkhandi.

Uriya Composition : Rai Madhusudan Rao Bahadur and Babu Madhusudan Das.

Burmese Composition : W. G. Wedderspoon Esq and Yen Wun Sein Esq.

Urdu Composition : Maulavi Ghulam Yazdani and Maulavi Muhummad Mustapha Khan.

Assamese Composition : Srijut Hem Chandra Goswami and Sj Padma Nath Barua.

Sanskrit (*Pass*) Babu Nrisingha Chandra Mukhopadhyay, Mahamahopadhyay Dr. S. C. Vidyabhusan and Babu Brajalal Chakravarti *Honours* —Rai Rajendra Chandra Shastri Bahadur, Dr Thibaut and Babu Braja Lal Chakravarti (in consultation with Hon'ble the Vice Chancellor).

Pali (Pass & Hon) Dr. Thibaut, Mahamahopadhyay Dr S C Vidyabhusan and Babu Rebati Nath Chatterji.

Arabic Shamsul Ulama Ahmad, Dr. Suhrwardy and Shamsul Ulama Abu Nasr Md. Waheed (in consultation with Col C. L Peart).

Persian Same as in Arabic except Z. R Zahid Esq in place of Shamsul Ulama Abu Nasr Muhummad

Latin . W. C Wordsworth Esq, Rev. E. J Thompson, A D Keith Esq

French G Thibaut Esq, Rev. Father Francotte s j and G Le Francheur Esq.

History (Pass) W A. J. Archbold Esq, M. N. Bose Esq . and N. C. Sen Esq (*Honours*) W. A J Archbold Esq, A W. Watson Esq, M N Bose Esq N N Gupta Esq, N C Sen Esq , and W Owston Smith Esq.

Pol. Econ & Pol Phil (Pass) Manohar Lall Esq , J N Das Gupta Esq , and S C Roy Esq, (Honours) Dr. J V. Ryan, R N. Gilchrist Esq and E A Holme Esq , in addition to 'Pass '

Mental & Moral Phil · (Pass) W. C. Words worth Esq, Rev. E M. Wheeler and Ram Das Khan Esq , (Honours) Manohar Lall Esq., A. C. Mc. Waters Esq, P. K Chakravarti Esq

Mathematics . (Pass) Hon'ble the Vice Chancellor, Rai Sahib Abinash Chandra Basu and Babu Phanindra Nath Ganguly (Honours) :—In addition to Pass—Dr Cullis, Dr. H. de S. Pittard and Babu Mahendra Nath Ray.

Physics (Pass & Hon) C. W. Peake Esq., Babu

R. S. Trivedi Dr. Bruhl, Dr. D. N. Mallik, B. N Das Esq and S. K. Datta, Esq

Chemistry: (Pass & Hon) Messrs. W Iate, Dr. Christie, Jatindra Nath Sen, Upendra Nath Brahmachari, R. N. Sen, Chuni Lal Bose

Physiology (Pass & Hon) Dr Nilratan Sircar, Dr. Brahmachari and Captain D Macc w Botany (Pass & Hon) Dr Bruhl Mr Mahalanobis and Mr E. J. Butler.

Geology Dr Bruhl, Dr Fermor Messrs Hayden and P N Datta

Exam. Results

At the Preliminary Exam in Law held in June 1912 307 students passed of whom 31 were placed in the First Division Mr. Kalidhan Chatterji headed the list from University Law College University Law College—First Division 25, Second Division 203 Ripon College—First 1 Second 41 Patna Law College—I 3 II,12 Dacca Law College—I 1, II 20.

At the B E Exam held in July 1912 the following students passed, all in the Second Division In order of merit Prasadas Sengupta, Makhangopal Banerji, Surendra Nath Majumdar Debendranath Sengupta, Bhabani Sankar Banerji Bijendragopal Bhattacharyya, Prasanna Kumar Biswas, Santosh Chandra Lahiri, Nalinibhushan Majumdar, Khetradas Chatterji, Aswinikumar Das, Khirodmohan Mukherji, Anathnath Chaudhuri, Bhubananda Das, Krishna Chandra Das, Jagadischandra Sarkar All appeared from C E College, Sibpur

At Intermediate Exam in Engineering held in July 1912, 30 students passed of whom 6 were Ex students. Suresh Chandra Chatterji headed the list.

Tagore Law Professorship

The Senate of the Calcutta University will proceed in the month of August 1913 to the election of a Tagore Professor of Law for the term of one year, to commence on the 1st of August 1914 The salary of the Professorship is Rs. 9,000 per annum, and the Professor will be expected to deliver a course of not less than twelve lectures on one of the following subjects:— 1) The growth and development of Hindu Law from the earliest times to the end of the 18th century (ii) Principles of the Law of Corporations, with special reference to its application in British India (iii) Law of Pre emption in British India.

Telugu as a Vernacular

It is hereby announced for general information that Telugu has been added by the Hon'ble the Vice Chancellor and Syndicate to the list of vernaculars prescribed in section 10 Chapter XXX of the Regulations of the University, from which passages are set in the first paper in English at the Matriculation Examination for translation into English

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Scholarships, Medals & Prizes.

Matri

On the results of the recent Matriculation Examination held in March 1912, the following medals and prizes have been awarded by the Hon'ble the Vice Chancellor and Syndicate to the undermentioned successful candidates —Jaynarain Prize Saroj Kumar Das, Ranchi Zilla School The Keshabchandra Sen Prize —Miss Putni Gupta Bethune Collegiate School The Jatindra Chandra Prize Sachindra Nath Sirkar Hare School The Jatindra Chandra Medal Hemendra Narayan Bhattacharyya Zila School, Faridpur The Kalidas Nayratna Medal: Bankim Bihari Ghosh A. S School, Harinabhi The Rai Radhika Prasanna Mookerjee Bahadur Medal Rakhal Chandra Sen High English School, Bahirdia The Inglis Medal Krishna Bihari Ray Chaudhuri High English School, Panitras The Inglis Prize Miss Putni Gupta Bethune Collegiate School The Mohinimohan Mitra Silver Medal: Birendranath Hajra Raj Collegiate School, Burdwan The Rai Abhaycharan Mitra Bahadur Medal: Bankimchandra Mahalanabis High English School, Munshiganj The George V Coronation Medal: Dhirendranath Chaudhuri Higher Class English School, Andul

A prize of books has been awarded to each of the undermentioned candidates in lieu of the Kirtichand Mackenzie Medal:—1. Birendranath Hazra, Raj Collegiate, School, Burdwan. 2. Miss Tatini Gupta Bethune Collegiate School. 3. Bimalchandra Bhattacharyya Rajshahi Collegiate School, Baulia. 4. Aswinikumar Nandi High English School, Durgapur. 5 Nripendranath Sen Municipal School, Chittagong 6 Sureschandra Ray City Collegiate School, Mymensingh. 7. Nareschandra Ray Zilla School, Rangpur. 8. Prandhan Chattopadhyay Government School, Uttarpara. 9. Anathnath Das Government School Uttarpara. 10. Kananbihari Basu Hare School. 11. Purnachandra Biswas A V School, Krishnagar.

Intermediate

On the results of the Intermediate Examinations in Arts and Science held in March, 1912, the following medals, prizes and scholarships have been awarded by the Honb'le the Vice-Chancellor and Syndicate to the candidates mentioned below:—

THE DUFF SCHOLARSHIPS. *In Languages.* Annadacharan Chakrabarti Dacca College *Mathematics.*—Asutosh Pal Ripon College, Bankubihari Ghosh Scottish Churches College. *Physics*—Mahitmohan Ghosh Presidency College, Calcutta. *Chemistry.*—Brajendrakumar Chaudhuri Dacca College. As the Best student of the Scottish Churches College. Sachindralal Dasbarma. As the Best Christian Student of the year (in I.Sc.) Cyril D. Whittles Non-Collegiate. The Pachete Sanskrit Prize: Nibaranchandra De. Victoria College Comilla. THE SARADAPRASAD PRIZE: *English.* Miss Joanna Lauder Non-Collegiate Student. *Sanskrit*, Nibaranchandra De, Victoria College, Comilla. *History.* Nirapada Samaddar Presidency College, *Logic.* Nirapada Samaddar Presidency College, *Mathematics.* Asutosh Pal Ripon College and Bankubihari Ghosh Scottish Churches College, *Physics.* Mahitmohan Ghosh Presidency College, *Chemistry.* Brajendrakumar Chaudhuri Dacca College. *Botany.* Narayandas Datta Ravenshaw College. The Bankimchandra Silver Medal: Jogeschandra Sinha City College. The Stephen Finney Medal: Mahitmohan Ghosh Presidency College. The Woomeschandra Mookerjee Silver Medal: Miss Joanna Lauder Non-Collegiate. The Rai Radhikaprasanna Mookerjee Bahadur Prize: Budhendranath Mookerjee Presidency College. The Sindhubala Medal: Asutosh Pal Ripon College.

B. A & B. Sc.

On the results of the B. A. and B. Sc. Examination held in March, 1912, the following medals, prizes and scholarships have been awarded to the under mentioned candidates:—

The Eshan Scholarship, Debaprasad Ghosh City College. The Radhakanta Medal, Bipinbihari Guha City College. The Harischandra Prize, Debaprasad Ghosh City College. The Herschel Medal, Debaprasad Ghosh City College.

The McCann Silver Medal, Sudhansukumar Bandyopadhyay. Presidency College Calcutta. The Peirychand Mitra Medal, Jitendrakumar Chakrabarti Scottish Churches College. The Hemantakumar Medal, Rai Rowland Thomas Scottish Churches College. The Padmavati Medal, Miss Nirmala Ray Bethune College The Philip Samuel Smith Prize. Rai Rowland Thomas Scottish Churches College. The Kesabchandra Sen Prize and Medal, Rai Rowland Thomas Scottish Churches College. The Prasannakumar Sarbadhikari Medal, Hiranlal Mukhopadhyay Presidency College Calcutta. The Bishnupriya Debi Prize, Padmadhar Chaliha Presidency College Calcutta. The Bankimchandra Gold Medal, Harisatya Bhattacharyya and Ramanikanta Chakrabarti Scottish Churches College. The Manekji Rustomji Medal, Panchanan Mitra Ripon College. The William Smith Prize, Rai Rowland Thomas Scottish Churches College The Tawney Memorial Prize, Siddheswar Chaudhuri Presidency College, Calcutta. The Gangaprasad Medal, Durgapada Bandyopadhyay Presidency College, Calcutta. The Jyotischandra Medal, Surendranath Bhattacharyya Hughli College. The Gangamani Medal, Atulchandra Dasgupta Sanskrit College. The Bankimbihari Sen Medal, Debaprasad Ghosh City College, Calcutta. The Taraknath Ray Prize, Surendranath Bhattacharyya Hughli College. The Pratapchandra Majumdar Medal, Rai Rowland Thomas Scottish Churches College. The Abinaschandra Medal, Panchanan Mitra Ripon

College. The N. N. Ghosh Medal, Gobindacharan Das Scottish Churches College. The Manmatha nath Bhattacharayya Memorial Gold Medal, Durgapada Bandyopadhyay Presidency College. The Ramtanu Lahiri Gold Medal, Rai Rowland Thomas Scottish Churches College. The Gangamani Debi Gold Medal, Miss Pritibala Ghoshal Bethune College. The Prasannamayi Debi Prize, Miss Nirmala Ray Bethune College. The Suveswara Purnachandra Medal, Debaprasad Ghosh City College

Medical

On the results of the second M. B Examination held in April, 1912, the following medals have been awarded to the undermentioned candidates :—

The Goodeve Medal, Bijayananda Sengupta The McLeod Medal, Akhilnath Sirkar. The Jagatchandra Dasgupta Coronation Medal, Akhilnath Sarkar. The Dr. Rai Debendranath Rai Bahadur Gold Medal, Bidhubhushan Mallik.

On the results of the First M B Examination held in April, 1912, following scholarship and prize have been awarded to candidates named below —

The Manackjee Rustomjee Scholarship, Tridibnath Bandyopadhyay and Harihar Gangopadhyay Dr. Rakhaldas Ghosh Prize, N Smith Ghosh

MADRAS UNIVERSITY.

Syndicate

Mr. W. H. James, B. Sc., and Lieut-Col R. Robertson, M.B., I.M.S., Members of the Syndicate, resigned their seats respectively on the 1st May and June 24, 1912

Exam. Dates

The L. T. Examination of 1913 will commence on Wednesday the 16th April 1913 instead of on Tuesday the 15th idem.

The Matriculation Exam 1913 will be held at Jaffna in addition to the centres already notified.

BOMBAY UNIVERSITY.

A meeting of the Senate of the Bombay University was held at Bombay on the 2nd, Sir Narayan G. Chandavarkar, the Vice Chancellor presiding.

The Senate considered the desirability of holding the examination for the degree of Bachelor of Hygiene twice a year, and raising the fee (making it Rs. 75, whether the candidate offered both parts, or one part only of the examination). Being put to the vote the proposition was carried.

The Senate next considered the desirability of throwing the M D. and M. S. examinations open to all persons holding the L. M. and S. Degree of this University.

On a division the amendment was defeated and the original proposition was agreed to.

Consideration was given to the desirability of framing regulations enabling candidates at the Agricultural and Engineering examinations who fail by a small margin under one head to pass the Examination on the recommendation of a majority of two third of the examiners.

The Senate then considered the courses in in science, geography and vernacular for the Matriculation examination under the revised regulations.

The revised regulation in connection with the courses of science, geography and vernacular were as follows: " There will be no University examination in Science, Geography and Vernacular or Optional English, but each candidate shall be required to produce a certificate from the Head-Master of a registered school showing that he possesses a satisfactory knowledge of each of these subjects according to the courses prescribed by the Educational Department in so far as they are, with or without modification, approved by the Senate on the recommendation of the Syndicate. In the case Optional English an extra book or books shall be prescribed by the Syndicate at least a year before the examination."

Mr. E. D. Talati seconded the amendment which was agreed to.

ALLAHABAD UNIVERSITY.

Changes in the Regulations in Chapters XIV, XV, XVI, XVIII and XIX fixing the age limits of candidates for the Intermediate, Bachelor of Arts, Master of Arts, Bachelor of Science, and the Master of Science Examinations do not apply to students, who were admitted in Colleges prior to the date of the passing of the new regulations by the Government, *viz.*, 6th January, 1912.



and Schools.

C. E. College Sibpur

The College closed on the 6th August for the Long Vacation. It reopens on first Monday in November, *i. e.* on 4th.

Midnapur College

The Athletic Section of the association made a very good start in the beginning of this session under the able management of Babu Ramcharan Sinha, the Athletics Instructor. He is going to organise a football tournament in the district by presenting a trophy to be styled Bradley-Birt Cup in honour of the District Magistrate of that name.

The Literary Section, which had of late been in a state of suspended animation has been brought to life again, through the efforts of the principal. The first sign of life is the meeting that was held on Saturday last. The business on the agenda was (1) To elect the office bearers for the present session (2) To discuss the proposition—"That this house is of opinion that the vernaculars should replace English as the medium of Instruction in this country."

There was a full house. Babu J. N. Chakrabarti M.A. Lecturer in English and History was in the chair. A strong committee was elected, with Bhabani Kinkar Bose of the 1st year class as Secretary. Bhabani Kinkar is well-wnown to the students of this town as the boy who carried off all the medals of the 2nd and 1st classes at the last prize giving.

Pachaiyappa's College History Association

The Inaugural Meeting of the above Association was held at the Pachaiyappa's College with the Hon'ble Mr. R. C. C. Carr in the chair. The Address was delivered by Mr. H. Dodwell on 'the History of Madras.'

The lecturer in the course of his address, said he did not propose to deal with the history of the whole city of Madras. He proposed to confine his remarks to that part of the city which was in existence 200 years ago. It may seem strange to those who have studied the standard historians that people should take the trouble to study such period. The reason he expected was that the modern theory of causation in history was different from what used to be. Referring to the history of the Company's factories, he said that he thought, that in these factories was to be seen the basis of what has subsequently become the British Indian Empire. He then proceeded to trace the growth of the city from 1629 to the end of the 17th century, pointing the growth of population, trade, executive powers and Judicial powers. He gave a short account of the various differences between the Fort authorities and the King of Golkonda. Speaking of the Portuguese settlement of St. Thome, he said that the decay of this settlement and its seige by the King of Golkonda had driven many of the most prosperous and able merchants of the Portuguese settlement into Madras, where at this time a settled Government was in existence. This influx of Portuguese merchants was of great importance to the prosperity of the city and its growth. As the Company's trade with China was carried on through Manila, which was at that time in the possession of the Portuguese and Spaniards, and owing to the troubles with the Spanish. English merchants were unable to carry on trade through the island. The Portuguese merchants were peculiarly useful to the company in this respect. The lecturer also referred to the diamond trade of Madras. Practically the whole of the diamonds exported from India were, he said, exported from this city. He then referred to the events leading up to the imposition of the quit rent which had first excited

much opposition He also spoke of the introduction of brokers who were supposed to go round the town finding out people who had things to sell and those who wished to buy, for which a charge of 1 per cent on the value of the goods was made The growth of revenues from customs and that at the end of the 17th century from other sources were also referred to and also the fact for the payment of 400 pagodas a year they enjoyed sovereign right—the right of absolute control

The chairman in his remarks reviewed the various points in the lecturer's Address and pointed out that it was during the period covered by the lecture that the first Municipality was started, viz in the year 1687 He also referred to the diamond traffic of Madras

In conclusion the lecturer said that as an old citizen he claimed the privilege of giving them one word of advice They had to attend to the history of the past and in that past there was a great deal to be proud of They must be proud of their city and they must remember the traditions of the past and with the students of the College lies the history of the future

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Kumbakonum College

The Principal and the Director note in the report with approval the long and faithful services rendered to the College by the late Mr K P Gurusami Iyer and regret that he did not live to enjoy his well earned pension The strength of the College at the end of the year was 163 the numbers in the four classes from the highest downwards being respectively 26 18 37 and 82 against 4 [illegible] 45 and 53 on the 31st March 1911 The average number on the rolls and the average daily attendance during the year were 170 and 145 respectively

The new reforms instituted in the system of collegiate education in Madras have necessitated a great extension of the present accommodation and equipment and new buildings are now in course of construction. The Principal hopes that the building operations will be carried on as expeditiously as possible, but thinks they may take another year. As regards discipline the Principal remarks. "The tutorial system continued to exercise a wholesome influence on the conduct of the students and on the maintenance of discipline which was quite satisfactory during the year" The College acquitted itself creditably in the University Examinations maintaining a high percentage of passes and distinctions The Athletic side appears to have been somewhat neglected and in this respect Kumbakonum might well try to emulate the excellent example set by Trichinopoly. We are sorry to note that the hostel has fallen upon bad times financially but hope that the depression is only temporary A useful feature and one of which we should like to hear more is the encouragement of the inmates to take an interest in gardening

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Tellippalai A M School Ceylon

The school has made steady progress during the last year Its present flourishing state is a testimony to the steady work done by the Staff and the acknowledgment of it by the people The success which the students achieved in the recent Government examination has been unprecedented in the history of the School The grant earned during the year is in excess of the highest previous grant by nearly Rs 125 Fees were collected with unusual steadiness and the amount every term exceeds that of corresponding terms of the previous years Great credit is due to the management and the staff for the year's success We trust that this school which has been a blessing to Tellippalai for over 50 years will have many more years of successful work

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Bahauddin College Junagadh

Under the joint auspices of the Bahauddin College Debating Club and the Junagadh branch of the Theosophical Society a lecture was delivered on Friday evening the 9th Inst by Principal Scott in the College hall Several state officials and a majority of the English knowing gentry of the town attending The subject was The signs of the times and Mr Tudor Owen I C S Tutor and Guardian to H H The minor Nawâb presided

After a few hints on the study of History from a general point of view, the lecturer went through

a brief review of the times when Gautama Buddha flourished in India *i e* 6th Century. B C "Whenever there is neglect of Dharma and exaltation of Adharma then I come forth from time to time — is a great truth told by Shri Krishna to Arjuna in the Bhagvat-Geeta Lord God Krishna fulfilled this great promise of his by preaching to Arabia the lessons of morality and religion through the personality of Mahamad the prophet and appearing as Jesus to preach Christianity when Rome had come down from its unique position it had once taken up "Are not then we he said justified in anticipating a new Avâtara of the Lord God when the world has gone to rack and ruin in point of morality and religion peace true happiness and universal brotherhood ? Similar causes produce similar results The lecture was interesting and created much liveliness and enthusiasm The president then alluding to some points the meeting was brought to a close after a vote of thanks moved by Justice Reuben had been tendered to the chairman and the lecturer

The Annual cricket fixture between the Bahauddin College Junagadh and the Rajkumars College Rajkote came off at Rajkote on Wednesday the 24th of July and ended in the win of the former by 3 wickets and 2 runs

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Muir Central College

Pandit Sheo Adhar Pande M A LL B is appointed to be professor Muir Central College in the provincial educational service in the Rs 200 grade and Pandit Kali Partab Dube, M A B SC LL B is appointed to be assistant professor and superintendent of the Government hostel Muir Central College in the provincial educational service in the Rs 200 grade

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The Bareilly College

The Bareilly college has lately shown signs of considerable improvement This year it was proposed to make adequate arrangements for biology lectures but somehow or other the university could not sanction this and consequently the matter had to be postponed until next year A Bareilly college magazine has been started and it contains all the available news concerning the college, being edited by the vice-principal The Bareilly College Association, in which present as well as past, students can participate, will tend to promote feelings of mutual love, and to strengthen the bonds of union

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Training College Lucknow

Mr J C Kempster the permanent principal of this college, returned here on August 1st from England and took over the charge of his office from Mr Holt who had been officiating for him The students of the College presented an address to Mr and Mrs Kempster

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Mr Kishori Lal on behalf of the students spoke a few words of welcome Several Hindi and Urdu poems specially composed for the occasion were also read by the students

Mr Kempster recently passed the B A from the Calcutta University and has obtained the first class diploma in manual training from the London University His name is specially connected with the Training College of which he is the first Principal

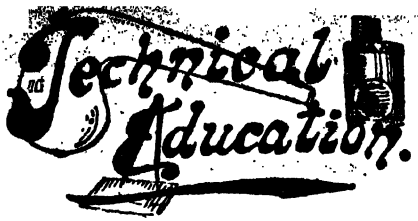
Mr Kempster in replying to the address said that he never knew that he was so great a man and that he felt very proud of himself when the student spoke of his just and sympathetic treatment which he was ever aware of He said in conclusion that he would endeavour to be kind and just as far as it was in his power to be He assured them that he would do his best to make them really successful teachers and would fight for them to get diplomas

Mrs Kempster also spoke on the occasion and said that India had now become their second home She assured the students that she would be quite ready to welcome any one who went to see her and would hear all their joys and sorrows like a mother She referred to the students as the members of her family which was growing every day and was very anxious that her children be a model to be set before the world

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Dayanand High School Benares

One more educational institution it goes by the name of Dayanand High School, has been organised at Benares The school is managed by an influential committee with Babu Mewa Lal rais as president and Babus Gauri Shankar Prasad vakil, and Shiva Prasad Gupta rais as secretaries There are four graduates on the staff, along with a number of other experienced teachers Mr Vishnu Bhaskar Kelkar, B A has been appointed headmaster. A large number of students is pouring in A Vedic Ashram has also been opened along with this school where 30 seats are provided Sandhya and Hawan is conducted daily morning and evening along with occasional discourses on religious teachings The school, it is hoped, will be a great success in the near future.



SERAMPORE WEAVING INSTITUTE.

Distribution of Diplomas.

The annual distribution of prizes and diplomas to the successful students of the Government Weaving Institute, Serampore, was held in the hall of the Institute under the presidency of Mr. W. R. D. Prentice M.A., I.C.S., District Magistrate of Hooghly. The school was tastefully decorated and there was a distinguished gathering present which included among others Raja K. L. Goswami, M.A., B.L., Mr. A. K. Jameson, I.C.S., Sub-Divisional Officer of Serampore, Prof. S. C. Mukerjee, M.A., of the Serampore College, Mr. N. Sen, Deputy Magistrate, Mr. L. M. Gupta, M.A., Deputy Superintendent of Police, Serampore, Rev. J. Drake, Principal of Serampore College, Rev. A. C. Under-wood, Rev. Father Devos, Dr. B. L. Bose, Babus Khetter Mohan Shah, Rajendralal Goswami, and Amulya Charan Goswami, Mr B. P. De, Chairman of Serampore Municipality, Mr. N. C. Sil, Sub-Deputy Magistrate, Babu Ashutosh Goswami, Miss Bergin and Miss James of the Baptist Zenana Mission, Serampore.

The visitors and the President on arrival were conducted through all the Departments by Mr. E. Hoogwerf, Principal, and the Vice-Principal of the Institute where the students were at work.

Mr. Hoogwerf then read the annual report which showed that the Institute had been of 3 years' standing, having been opened in 1909 and was improving satisfactorily. Several students of the Institute who passed out of it, got employments in various places. The Maharaja of Cossimbazar intended to open a model factory in his estate and a student of the Institute was promised to be employed by him. The Principal hoped that the Institute would achieve far reaching success in the next few years. The discipline of the school was satisfactory and arrangements for athletics were being made. The library was opened this year and books were purchased at a cost of Rs. 300 sanctioned by His Honour the Lieutenant-Governor of Bengal during his visit to the Institute in 1910. It had separate hostels for Hindu, Mahomedan and Christian students respectively, and had four outlying centres at Bihar, Bankura, Sambalpur and Cuttack. The Principal reviewed the report of each centre and their work.

The President then distributed the diplomas and prizes to the students for efficieney in cotton spinning and cotton weaving.

In a brief speech the President congratulated the authorities of the Institute on the excellent report given by the Principal. He spoke of the admirable training in designing, etc., that the students received at the Institute and expressed himself well pleased to see the working of the looms. He thanked Mr. Hoogwerf and his assistants for what they were doing in spreading industrial education.

Davar's College Bombay

The following students from the Davar's College of Commerce have come out successful in the Central Association Examination results. These examinations were held at Bombay in June last under the supervision of Mr. F. J. Parekh, J. P., Honorary Magistrate.

Licentiate—Venkatrao P. Patel (First Place), Jethalal Mohanlal Anandjiwala, I. Kameswara Rao and D. Cunha Victor Lawrence.

Intermediate—Vithal Subrao Swadi (Third Place), Rustomji Edulji Sethna. Vishwanath Lakshman Nulkar, Mahasukh Kalianrai Vaidya, Biharilal Chanana, Ganesh Trivikram Pitre, Maneck Cursetji Davar, Shapur Nanabhoy Kharegat and Jehangir Jamsetji Mistry.

OTHER EDUCATIONAL ADVANCES

The Hindu & Moslem Universities.

"His Majesty's Secretary of State has decided, after mature consideration, that the proposed University should not have the powers of affiliation outside the locality in which it may be established. The practical objection on educational grounds to affiliation are many. I need only instance the following:—(1) A University with branches all over India would lead to competition and probable conflict with the other territorial Universities. (2) Such a University would inevitably keep down the standard of the Aligarh degrees and would destroy the hope that the teaching University would become a genuine seat of learning at which the examinations would be subordinate to teaching and the teachers would be free to develop the intelligence of the students and not merely exercise their memories. (3) The value of the residential system depends upon the tone or spirit which pervades the college and handed on from one generation of students to another and constitutes its traditions and the traditions of Aligarh are quite local and peculiar depending largely on personal association. (4) The University at Aligarh would be quite unable to control colleges situated in different parts of India. Experience is already demonstrating the inconvenience of the existing Universities Apart from these practical objections on the general principles of high educational policy, it is desirable that the University of Aligarh should be founded in harmony with the best modern opinion that is, as a teaching and residential University. The decision of His Majesty's Secretary of State is final and must be accepted as such. The Secretary of State and the Government of India recognise that it may be a cause of disappointment to the community, but they trust that it will be in their best interests in the long run."

Sir H. Butler's Letters

In their letter to Sir Harcourt Butler, the Moslem University Constitution Committee enter their emphatic protest against some of the decisions recently announced by Government.

The Aligarh Reply

Referring to the announcement that the proposed University was not to have powers of affiliation outside the locality in which it might be established, the Committee say in their letter that the decision has caused them the deepest disappointment. They go on to say that after careful and prolonged deliberation they have arrived at the conclusion that they are unable to modify the constitution framed by them by confining the scope of the University to the locality in which it is to be established without the power of affiliating institutions outside the locality. So strong, indeed, is the feeling on this subject among the Mahomedan community that some of their leaders have actually declared that they would rather not have a University at all than have one without the power of affiliation. We need scarcely say (says the "Bengalee") that we are in great sympathy with this view, and this for the reasons we have already stated. Regarding the decision of the Secretary of State that the Viceroy should not be the Chancellor, that the University should elect its own Chancellor and that the powers which it was proposed to vest in the Chancellor should, with one exception, be exercised by the Governor-General in Council, the Committee say that they have received this decision with extreme disappointment, and regret that they are unable to agree to it. As we have already said this decision, if carried out, would officialise the University to an extent which most people would think to be undesirable. On both these points the Hindu community will, we feel sure, strongly sympathise with their Mahomedan fellow-subjects, not only because the principles here laid down apply *mutatis mutandis* to the Hindu University, but because they are principles which do not commend themselves to the educated community in the present circumstances. We can only hope that the Government of India and the Secretary of State will reconsider their decisions in these respects.

Hindu Music.

I have returned from America and Europe after vindicating the claims of Hindu Music as a fine art preeminently deserving of protection and preservation not in the interest of India only but of Europe and America also In every museum in America and Europe one sees fossils of all fine arts particularly painting. But the fossils of music are no where to be had, except the solitary toy of double guarded Vina presented to these museums by my countryman Maharaja Sir Sourindromohun Tagore of Calcutta

Those gorgeous melodies that Hanuman and Bharat sang, those beautiful notes which Jayadeo Shastri the author of Geeta Govinda sang, those wonderful Dhrupuds which Ramdas, Tansen Gopal Nuk and Sadarang sang, are day by day being lost even in India

To convince the public of the Bombay Presidency of the utility of preserving these melodies I exhibited my double guarded Vina and play and sing some of these melodies at Framji Cowasji Institute Bombay

At every University in America and Europe I was grieved to find that students knew absolutely nothing about the History of Music and professors knew still less Where volumes were being devoted to the music of Greece, Phœnicia and Egypt the subject of Hindu Music was dismissed in one or two lines I have proved during my American lectures that Hindu Music as sung by the Aryan Masters is the root mother of all the music of the world and is the oldest and the most ideal system of music Those of your readers who have read my lectures at Carnegie Hall New York know all about this Now comes the question of practical utility

Are we by our social and moral constitution adapted for the music of any other nation but our own particularly after being convinced of the fact that for our mental moral aesthetic and religious culture, there is no music like our own

For the attainment of my object of reviving the music of the Aryan Masters and increasing the felicity, of learning the same I have established "The all India Academy of Music." The office of this propaganda is situated at No. 18 Block B, Sitaram Buildings (near Crawford Market) Bombay

For the success of this my Academy of music, the goodwill of all the musicians and refined ladies and gentlemen of my country is necessary I wish to make my academy the official centre where

1 All the musicians of India may meet and receive such recognition from the masses as their talents deserve for without such recognition the music of the Aryan masters will surely die away.

2 To make the art of music less mysterious and more approachable to my lady or gentleman of average means and ability. With this object it is my desire to train up ladies and gentlemen as teachers and also to supply the necessary musical literature with notation for the benefit of the students, a defined system of notation being the chief feature of this literature

3 To collect and preserve the poetry folk lores and music of each different province by recognised talents and publish the same with notation

I have with herculean labors collected nearly 3000 pieces of music—Dhurpuds—Khyals, Tippas—Thumris—Kubitas &c and set this to sanskrit notation My stock comprises the music of Jayadeo Shastri, Gopal Nuk, Ramdas Tansen Sadarang Bilaskhan Minorang and Shori of Punjab I have collected the standard sargams of all the Rigas and Raginis known to modern musicians and latterly I have not come across any musician in this part of India who has anything of importance to add to my stock. It was comparatively easy for me to acquire the huge stock of music with the mysteries and intricacies of Vina Manipulations, but the effect of making my stock accessible to the general public is no easy matter Every scheme of public utility must have a nucleus of making the scheme self supporting With this view I the daughter of a Bengal zemindar discarding the prejudice of my relations have sung 24 pieces on 10 inch double phonograph discs in various Raginis as Dipuck—Malar—Tilak—Kamod—Devgire—Geet Govinda Bihag—Nitmalati, Bhimpalasi—Kafi—Khamach Bhairabi Sarang Bahar &c., The catalogue of 50 selections will be sent free to any one asking for the same This catalogue contains complete words of each piece of music that any one wishing to learn the piece of music can learn the same. The money realised by the sale of my discs goes towards the support of my institution and the propagation of my scheme

28th July 1912 SATYABALA DEVI



Imperial Conference of Teachers' Associations

The Imperial Conference of Teachers Associations was continued on July 15 at the Caxton Hall, London the most interesting feature of the day's proceedings being the discussion on classical education which took place at the afternoon session

Lord Meath presided at the morning session when the following subjects were discussed – The Training of Teachers the Recognition of Teachers Certificates and the Migration of Teachers Papers were contributed by Canon Wesley Dennis, Battersea Principal Alexander Morgan, Edinburgh, Miss Luthull Cheltenham Mr L A Adamson Melbourne Mr Ivan I Biss, Dacca Mr J W Mills Johannesburg Miss Fry, Sydney Mr Ord Marshall Hon Secretary of the League of the Empire and Mr F. Shann, Victoria

A Resolution was unanimously adopted urging that teachers trained in any National Training College or Normal School and holding a diploma of education of any University in the British Empire should receive recognition as teachers in all parts of the Empire On the motion of Mr. W A Nicholls it was further urged that holders of certificates of the Board of Education, should receive recognition as teachers in all parts of the Empire

Mr Lucas, a member of the Ontario Government, extended an invitation to the conference to visit Toronto, and the invitation was accepted It was also decided that to maintain the work of the Information bureau of the League of Empire the Dominion Governments should be requested to add to their educational estimates a small grant in aid for the league

Miss Cleghorn moved a Resolution, which was adopted requesting the League of Empire to approach the various Steamboat Companies asking them to make some reduction of fare in the case of teachers travelling with definite objects of study and of interchange of appointment with the approval of their education authority

Professor Gilbert Murray presided at the afternoon session when the question of classical education was discussed

Papers on the subject of classical education were contributed by Professor J A Sonnenschein Birmingham Professor R S Conway Manchester, Mr F C Colbeck Toronto, Miss M V Williams and Dr W H D Rouse Cambridge

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Moral Education Congress

The second International Moral Education Congress will take place at the Hague from 22nd to 27th August under the distinguished patronage of Her Majesty the Queen Mother of the Netherlands The first congress was held in London in September 1908 when twenty seven governments were represented Professor Michel Sadler being the president and no less than 150 delegates were present The first aim of the Congress will be to cultivate the co operation of men and women representing different schools of thought to matters of education not by slurring over differences of opinion but by giving everyone an opportunity in the spirit of toleration of defining and explaining his opinion and point of view The subjects for discussion at the different sessions are (1) Moral education and character building, considered from any point of view, (2) physical training as a means to character building, (3) moral education in training colleges, (4) character-building of young people in schools other than primary, and also in family life and society at large, (5) character building of abnormal children, (6) the desirability of establishing an International Bureau and an International

Journal of Moral Education. It will be seen that the subjects are very wide in their connotation, so wide that although it was hoped by the Committee that they would be able to limit the number of papers to be read, they have found it impossible to do so. Holland itself contributes no less than 50 to the preliminary list, Mlle. Weevering, contributing one on "Education et Enseignement Laique." Great Britain's quota is already 23, Professor Adamson, Sir R. Baden-Powell, Dr. Hayward, Professor Sadler, and Dr. Saleeby appearing amongst the writers. Dr. Saleeby, of course, treats of eugenics, his subject being "Eugenic Education, or Education for Parenthood." Dr. Hayward's subject "Fact and Fiction about School Games" should ruffle the dove-cotes. Sir R. Baden-Powell characteristically deals with scouting for boys as an aid to character training in education; while Professor Sadler takes "Spiritual Influences in Modern Education." Already papers from twenty different nationalities have been received, and the Congress bids fair to exceed in importance the one of four years ago. Invitations to Associations are now under consideration.

German Education

In the course of a lecture on educational methods in England and Germany delivered in England recently Herr Max Eichenberg explained the educational conditions in his country and claimed for them superiority over those prevailing in England. German elementary schools, he said, are far in advance of British; they have, it seems, noble buildings, well ventilated rooms and an ample supply of well-trained teachers. The speaker said that the number of secondary schools in England was small, when compared with the number in Germany. There are in German cities day schools of commerce which English cities have not. Although the fees in German secondary schools are much lower than the fees of similar schools in England, the education given there is superior, including as it does such subjects as ancient and modern history, and several languages, zoology, citizenship, and laws and rights of the constitution. 'German boys,' Herr Max Eichenberg said, 'are brought up to be patriots, to be ready for and to place before all else their nation, their army and navy. Their country is their first consideration. English boys are taught to be self-reliant, to depend on themselves and to face life alone'.

Sanskrit at Oxford Gift from Nepal

His Highness Maharaja Sir Chandra Shum Sher Jung Bahadur Rana, G. C. B., Prime Minister of Nepal, who in 1909 presented a very valuable collection of 6,300 Sanskrit MSS. to the Bodleian Library, has just placed the University of Oxford under a new obligation by sending on loan from his private library at Katmandu 70 carefully selected Sanskrit MSS., which have been personally handed over to the Boden Professor of Sanskrit at Oxford by a representative of Messrs Keymar, Son, and Co., of 1, White-friars-street, London.

The MSS., which for the most part consist of palm leaves, are of priceless value either on palæographic grounds or on account of their rarity, says the *Times*. About 30 of them date from between 700 and 1400 A. D., being nearly all older than almost any Sanskrit MSS. obtainable in India itself, thanks to the excellence of the climate of Nepal for the preservation of MSS. They are to be reproduced by the rotograph and collotype processes, which the Clarendon Press have raised to a high degree of perfection. A grant for the purpose has been voted by the administrators of the Max Muller Memorial Fund. When the reproductions have been deposited in the Bodleian, that Library, which already possesses by far the largest collection of Sanskrit MSS. in the west will be also the richest library in the world in palæographical specimens of Sanskrit MSS beginning from about 400 A. D. down to the last century.

WHAT OUR STUDENTS ARE DOING ABROAD.

Mr. Pavitra Kumar Datta, M. A. B. Sc., of Dacca is studying for M. Sc. degree in the University of Leeds. In recognition of his original research works, the Chemical Society have granted £5 towards his research expenses.

AMINUR RAHMAN, a Bengali Mahomedan, lately a student at Edinburgh, has been provisionally appointed assistant to Mr. Arnold, educational adviser to Indian students, in succession to Dr. Ray.

Babu Harendra Krishna Mukherji, M. A., B. L. Vakil, Calcutta High Court, has been conferred the Degree of Doctor of Laws (L. L. D.) by the Aberdeen University of Great Britain. The recipient of this honour is the eldest son of the late. Babu Karuna Sindhu Mukherji, a well-known Vakil of the Calcutta High Court, and is a rising member of the Vakils' Bar.

Mr. Surya Kumar Prasad Sinha B. Sc., (Glasgow) M. R. S. I., the grandson of the late Babu Lachmi Prasad, pleader of Gaya and son-in-law, of Mr. Parmeshwar Lal, M. A., Bar-at-law, has just returned home after a brilliant career in Engineering in England and Scotland. Mr. Prasad Sinha went to prosecute his studies in England after studying up to the B. Sc., standard of the Calcutta University.

Miss Naghubhai Joshi, a Bombay lady who proceeded to England in 1908 to study medicine, is expected back in India shortly. Hers is a remarkable career reminding one of the achievements, some thirty years ago, of her Deccani countrywoman the late. Dr. Anand Bhai Joshi M. D. of Poona. Miss Naghubhai passed the L. M. & S. of the Bombay University and then proceeded to Europe where during the last four years she was qualifying herself for the L. R. C. P. and L. R. C. S. She is also reported to have visited the most famous and up-to-date hospitals in France and Germany in order to make herself acquainted with modern medical appliances and methods of treatment and her unique experience acquired during her stay in the west, ought to prove valuable to Miss Joshi in her efforts to alleviate the sufferings of her Indian sisters.

Mr. G. S. Mather, the 3rd son of Mr. William Mather of Jaffna, has passed the quarterly examination in Practical Pharmacy of the Royal College of Physicians and Surgeons held on July 5th last. Mr. D. B. Jayatileke of Jesus College, Oxford, the former Principal of Ananda College, has taken a third class in the Final Honour School of Jurisprudence. Mr. R. L. de F. Pieris of Wardham College, Oxford, has also passed the same examination. Mr. J. M. Arunachalam, an old Royalist, and the eldest son of the late Mr. C. Arunachalam, District Engineer, who was studying Engineering at King's College, London, has passed his final examination with honours (6 firsts and 2 seconds), obtaining the College Diploma and being elected an Associate, besides winning the Jelf Gold Medal awarded to the best Engineering student of the year. We congratulate all of them on their success.

Mr. Joseph Gwynne an enterprising Eurasian youth youngest son of the late Mr. J. H. Gwynne retired Deputy Collector, proceeded to England from Calicut with the object of prosecuting his studies in Medicine in London and Edinburgh.

The position of Indian Engineering students

A number of Indian engineering students in England have issued a letter in which they protest against the system of recruitment of civil engineers for the Indian Department of Public Works. In the course of it they say :—Formerly the imperial engineers were trained and taken from the Royal Indian Engineering College Cooper's Hill. There was no limit placed on the admission of Indian students but it was a question of merit. After its abolition the present system of selection by the India Office came into force. The Selection Committee selects from the recruits, placing a limit of 10 per cent., of Indian students and the system has fallen from bad to worse. Lord Morley said, 'Deserve and desire.' The Indian engineering student has done full justice to this axiom of Lord Morley. They have done much more than could be expected of them in a strange land and in a foreign language. One can readily understand what this percentage limit and this mode of selection means to the intelligent manhood of India. Each student's life and livelihood is involved. In his own country he has not an atom of chance to enter any department of engineering. Taking railways as an example, the staff is fully monopolised by Europeans, and Indian students cannot even enter into the Covenanted Service for here the English engineers are sent out from this country with an agreement for a certain period, and after the expiry of their time most of them are taken into the permanent service. If justice is to be vindicated, let the following clauses be inserted for the governing of the Department :—(1) A 50 per cent share in the selected candidates for Imperial service and an increase in the Indian applicants' age limit from 24 to 25 years ; (2) the abolition of the Covenanted Service, and to recruit temporary engineers from the England-trained Indian engineers and from the local colleges ; (3) a proper share in the engineering establishment of all the railways.

The Teaching of Natural Science—I

BY PROF. P. S. MACMAHON CANNING COLLEGE, LUCKNOW.

In scientiis ediscendis prosunt exempla magis quam praecepta *—NEWTON.

Study is not for the purpose of enabling the student, as if in life long preparation for an examination, to repeat in the form of words that which is learnt; but to apply the same in the experiences of life; not merely to repeat it, but to make something else out of it; thus its ultimate purpose is in no way knowledge, but rather the art of utilising knowledge.—FICHTE "Wissenschaft und Leben"

The methods of teaching in European institutions are the outcome, not of a fortuitous concatenation of circumstances nor of the whims of arbitrary educationists, but of a steady process of evolution, extending in uninterrupted development from the middle ages to the present day, adapted to the changing practical needs of the community and the contemporaneous standard of mental culture.

The system hereby brought into being, which may be said to represent in its latest phase on a rough summation of the previous educational experience of Europe, has been transferred bodily to India as part of that epoch-making influx of western learning which in the last century disturbed the tranquil stream of Indian civilisation.

Much has been said and written on the evil effects of this unexampled mental revolution in the history of a people, and on every side there are prophets of evil pointing with ominous finger to the inevitable effects which it must have upon a race whose sense of historical and religious continuity has thus been rudely disturbed.

As in the liberal arts, in religion and in political history, so in education is the break of continuity equally manifest. India lacks both of the factors indicated above as the principal determinants of the character of her present educational system. Her pratical needs are not commensurate with those of modern Europe. The rationalistic centuries which in Europe have culminated in the machine age, arose and matured beyond the pale of the mental history of her people.

Now although the pessimistic standpoint from which a large section of Indian and European thinkers regard the introduction of western ideas is extremely wide-spread, it is significant to note that even those who deplore it must recognise its inevitability, and moreover, have failed to suggest any practical scheme whereby the alleged evils attendant upon a too-sudden revolution in thought and ideas might be mitigated.

Interesting as the subject may be, it is not proposed here to deal with the speculations that have been entertained by various thinkers with regard to the outcome of an intellectual collision between East and West. Without denying the proposition that a thing which is good in itself and among the most notable achievements of humanity may not under altered circumstances become an evil, the present writer is of opinion that the introduction of the secular education of modern Europe into India is in the best interests of her people *provided* it is understood, not merely in the letter but also in the spirit, and not merely its capabilities but also its limitations. It follows from this that many of the evils of which thoughtful observers have pronounced secular education guilty, are avoidable, and are due to the wrong methods of reasoning arising from imperfect education.

Be this as it may, the subject cannot be discussed further here: my object in mentioning it has been to emphasise the fact that science as taught in India is the product of foreign conditions and of a particular succession of economic experiences in which she has not participated.

The problem confronting the educationist is therefore how best to bring about a more thorough understanding of the *meaning* of the secular education of Europe, its scope and limitations, and its purpose or relations to the practical demands of every-day life. The present series of articles is an attempt to state the position of scientific teaching in India with particular reference to the points just mentioned.

In the first place it may be observed that science as a form of knowledge concerned with objective phenomena and based upon experience

* "In learning we profit more by example than by precept."

of external things through the senses, is cosmopolitan in character and should appeal to all civilized human beings in equal measure, apart from all question of race and intellectual environment. The influence of subjective conditions is therefore reduced to the barest *minimum*. There can be little doubt but that the subjective disparity between the English teacher and his Indian pupil, and the vast differences in their previous life-experience, is responsible for the nugatory character of much of the educational work in India. The teaching of English history or literature, for example, in accordance with standards set by English text-books, pre-supposes a certain preparedness of mind in the pupil made up very largely of knowledge imbibed unconsciously from early surroundings—from parents and so forth. This the Indian student, whose early life has been spent in quite a different atmosphere, naturally does not possess. His difficulties come, not so much from the language, but from the scanty stock of experience upon which he has to draw.

Thus the European teacher of literary subjects finds that the greater part of his time must be devoted to replacing that lack of experience by oral explanation of things that are the common stock of every English school-boy; and advanced learning suffers accordingly.

It would involve a serious digression from the subject under discussion to make any suggestions here having in view the removal or mitigation of the difficulties indicated above as confronting the interpreter in India of the Arts *curricula* of English Universities. Many are inevitable from the very nature of the case, some are removable and some will disappear spontaneously with time as the general standard of life among the educated classes is raised. My purpose is rather to point out that these difficulties apply in a very much less degree to the teaching of science; indeed, that they might almost be eliminated by an adequate practical application in college laboratories of the correct principles upon which science is based.

The distinction I have drawn between scientific and literary training lies, roughly speaking, in the fact that whereas in the latter the proper appreciation of that which is taught depends to a large extent upon a pre-determined state of mental development and experience, in the former the experience itself is supplied in a digestible form by means of exercises in the laboratory. The student is asked only to exercise his judgment upon things which fall within the range of laboratory teaching.

As an example, let us take the law of conservation of matter. Among persons untrained in science there is no more prolific source of error and misconception than the ideas prevalent concerning the nature of the changes undergone by matter. Indeed it was not until the 18th century that the fact of its indestructibility was even suspected. How is it then, that after a brief period of instruction in a laboratory, it becomes one of the most unshakeable convictions of the human mind? Because the repeated evidence of its truth drawn from the study of chemical reactions gradually establishes in the mind of the observer a state of moral certainty which no other sentiment can possibly influence. A similar case in every-day life is that of sun-rise. It is probable that among human beings anticipation of the rising of the sun tomorrow is among the most steadfast of beliefs. And yet there might be some difficulty in adducing a reason why this should be so. The answer is that the cumulative effect of a regular succession of experiences of sun-rise is sufficient to establish the fact in the mind as a great objective law of nature. All scientific knowledge is of this kind at root.

The constant re-occurrence of the same phenomena under given conditions convinces the mind of a sense of order in nature and of causality, namely, that every observable effect must have an antecedent cause and vice-versa.

This belief is the one true guiding light of all who enquire into the mechanism of external nature, from the neophyte in the college laboratory to the solitary investigator "wandering through strange seas of thought alone" beyond the outer confines of the little circle of human knowledge. Belief in the ordered arrangement of the universe and of its subjugation to immutable laws is the most fruitful incentive to new discoveries in the realms of the unknown.

For the present purpose, we must distinguish two states of knowledge in the mind. The first is the result of a kind of blind mechanism such as that already instanced with regard to the universal belief in the coming of tomorrow's sun. This kind of knowledge is of a non-productive nature being capable of further application or not according to the moods governing the mind.

The second or productive kind of knowledge arises only from a *conscious* assimilation of scientific truth. Knowledge attained in the second way becomes an integral part of the personality and influences, consciously or unconsciously, the whole of a man's activity in life. Thus an Indian cultivator may believe in a certain causal sequence in the course of natural events but he is incapable of applying that belief to the investigation of a devastating outburst of cholera in his village. An educated person on the other hand applying his knowledge of causality to the demands of practical life would not hesitate to attribute the outbreak to some adventitious cause and to take ameliorative measures accordingly.

The object of efficient scientific teaching then is to supply the student with a set of experiences and to assist him in the co-ordination of these so as to form a clear picture of the law and order of nature.

That is what I meant by saying that science in India has few special difficulties to fear provided that steps are taken from the beginning to furnish the student with a firm foundation of experience upon which to build. *Hence the vital importance in India of efficient and adequate laboratory instruction.*

I have stated that the consciousness of scientific touch is based solely upon repeated objective demonstration. This inner conviction, upon the strength of which depends the extent to which the scientific knowledge of the individual is utilised in practice, cannot possibly be gained from books or teachers. Learnt in this way scientific facts are apt to become mere abstractions, at the most an exercise for the memory, entering in no way into the thoughts or actions of the recipient.

Scientific culture will spread in India so long as the old traditional methods of learning by rote from books are discarded in favour of the exercise of the powers of inductive reasoning based upon a broad array of experimental data. It must become a real part of the mental stock of the Indian student, entering into his personality itself as a real possession, for it is only under such circumstances that it can become a factor of social economic value.

It might be inferred from what has been said above that in order to bring about that conviction in the perfect causality of nature which is the principal attribute of the scientifically trained mind, no attempt should be made to present dogmatic laws or generalisations to the beginner without the fullest measure of experimental proof.

In practice, of course, this is not feasible, and every teacher feels himself under the necessity of introducing new ideas which are the outcome of scientific instinct rather than subjects capable of simple experimental verification. It would be equally impossible to attempt to prove each single one of the many facts which are crowded into the average science course.

This however does not alter the contention that the foundations of scientific belief should be laid in the laboratory by a careful exposition of the working of natural laws and that this groundwork should be detached in the mind of the student from the great mass of hypotheses of which the subject matter if mainly composed.

The question thus arises: what are the respective functions of the teacher and the textbook and to what extent should they interpose between the student and his direct contemplation of natural phenomena?

(To be continued).

LUCKNOW. P. S. MACMAHON.

Technical Instruction and its Relations to Education

BY THE BISHOP OF LIMERICK *

My first duty to-day is to thank the members of the Committee for the great privilege and honour which they have conferred upon me in inviting me formally to declare this Institute open.

I do so with great pleasure, and with a deep conviction that I am thus allowed to associate myself from the beginning with an Institution that is destined to exercise for generations to come a profound and far-reaching influence upon the progress and prosperity of our city.

From the first this Institute has for us, Limerick-men, this special interest, that it is entirely our own.

The Government, as a part I suppose of that statecraft which considers it high policy to starve Irish education in all its branches, has set up for us a system of Technical Instruction without making any provision for the erection of the buildings in which it was to be carried on.

You have received neither grant nor loan from Government, but you have had to go into the open money market, and borrow, on the credit of the city, the funds which have enabled you to erect this building. I do not know that you have lost much by that. For public bodies, as well as for individuals, there is some value in self-reliance; and although we have a perfect right to claim for ourselves in every department of public life a full share of the funds of the country to which we contribute more than our share, yet I think it is a useful lesson to find, when we are thrown back upon our own resources, that they are equal to our needs. In this instance, in the old stereotyped formula, "we called upon the Government" and got nothing; we then called upon ourselves, and we have got this splendid Institute.

As a mere building it is a substantial ornament to our city, and a credit to the architect who designed it—a Limerick-man too—and to the builders and workmen.

But its real value will be, I trust, of a much higher order, and from it will go out, we may confidently hope, an influence which will quicken and elevate every phase of commercial and industrial activity in Limerick, and enable our citizens to take their legitimate place in the progress of the world, and turn to the fullest advantage the resources which God has put within our reach.

Technical Instruction comes rather late in Ireland. We have been left at least fifty years behind the really progressive countries of the world, not merely great nations such as the United States of America, or Germany, or England; we could never hope to keep pace with them, but even such countries as Belgium and Denmark and Wurtemburg. And yet great as the loss has been, there are some compensations in the case. It is only within the last few years that conditions social and political have been established that would make Technical Instruction on a large scale either valuable or possible in Ireland.

The first change to which I would refer is the recent land legislation. At the first blush this may seem rather remote from the subject we have in hand, but in truth it lies at its very foundation. Until the purchase Acts came into force the land of Ireland was held by a tenure that was fatal to all progress, and kept the resources of the country locked up, or rather, in a very literal sense, buried under ground, with the result that it paralysed the industry of the farmers, and condemned every other class in a large measure to stagnation and consequent poverty. What use would technical instruction have been for a people so circumstanced? It would have been very like a mockery to set about teaching the scientific methods of agriculture to people who could hope to derive little or no benefit from them, or to talk to them of industrial progress in conditions that made it practically imposible. With the emancipation of the land we may expect a new life, the energy of which will be felt in town and country. The land

* Address delivered by the Bishop of Limerick on the occasion of the opening by His Lordship of the Municipal Technical Institute, Limerick, 14th December, 1911. (First appeared in Irish Educational Review).

is the ultimate source of all our wealth ; trade and commerce and manufacture depend absolutely upon it, and now, that the land of Ireland with all its resources is in the hands of the Irish people, Technical Instruction has a fine field to work, in showing them how to use intelligently these new opportunities.

Another change of great importance has been the establishment of the Department of Agriculture and Technical Instruction, and the constitution of the Country and Borough Councils as the authorities to carry out its work. So far the Department has deserved well of the country on the whole, and in setting up Technical Instruction has given the country sound and effective guidance. But the part which our Local Authorities have played in the discharge of their new functions is as surprising as it is gratifying, and is in keeping with the success which has marked their whole administration. These local bodies give us the machinery for organizing Technical Instruction on a broad basis, and at the same time they will keep in touch with the needs and capabilities of their localities, which is essential to its healthy existence.

But of more vital importance, at least on the intellectual side, has been the settlement of the University Question. While the great majority of the Irish people were denied higher education, Technical Instruction and every other intellectual movement were cut off from their source. Now for the first time our universities are constituted so as to meet the wants of the whole nation. Some of the details of that settlement are not quite satisfactory, but it has this supreme merit, that there is now no man in Ireland, no matter what his personal convictions may be, but can find an university to which, without any sacrifice of principle, he may send his child. That is a reform which will make itself felt in the classes of every Technical Institute in Ireland, and give us in the children of our own country the teachers whom, up to this, we have had to seek elsewhere.

As a factor affecting the problems which the establishment of Technical Instruction sets before us, the condition of our schools is of no less importance than the completeness of our system of universities. And in this respect, too, the prospect is most favourable. In recent years all education in Ireland has made great advances. Under the Commissioners of Intermediate Education we must allow, although we need not admire their system of examinations, that Secondary Education has received a very strong and vigorous impulse.

And, what touches us here more nearly, we have in town and country as complete, as efficient, as well organized a system of Primary Education as you will find in any country, with, perhaps, the exception of Germany and Scotland.

I know very well that a different opinion is nowadays freely expressed by speakers on public platforms, but for myself I prefer to exercise my own judgment, founded on a long and intimate acquaintance with our schools, than be led by these persons, the most of whom, as our Yankee friends would express it, are "talking through their hats."

And I think that I may appeal to the business community of Limerick to bear me out in what I say of our Primary schools. The greater number of them in this city are conducted by the Christian Brothers, and I daresay that before a Limerick audience it is not necessary to argue their capability to train the intellect or form the character of youth.

We have also some very fine National schools. I happen myself to be officially connected with one of them, Leamy's School, and I can affirm on my own knowledge that it is a school of the very first order.

The National system, to which that school belongs, has spread over the whole country, and has struck its roots deeply in the confidence of the people, for whom it is doing, on the widest scale, an educational work of the highest value.

Hence it seems to me that in the long run it may be as well for us that Technical Instruction has been delayed until our social, political and educational conditions have been so constituted as to give it the fullest chances of success.

I should like, then, to say a few words about

and literature was the handmaid of all these. It was due to these inevitable facts, that the literature took the shape, it did.

So that, the literature of the 'Augustan' age was partly a continuation of the Restoration literature, and partly new.

Alexander Pope* was the hierophant of the present school of writers. He was a precocious genius, and "his earliest attempts at poetry were made when he had hardly left his nursery."

Of his literary productions, some are original some imitations, and translations from Homer. He was also a master of satire.

The Pastorals which appeard in 1709, in 'Tonson's Miscellanies', is a series of four eclogues dealing severally with spring, summer, autumn and winter. These were written in imitation of Virgil's 'Eclogues'. *Windsor Forest*, dated 1713, is a descriptive poem written after the the model of Denham's 'Cooper's Hill'. Both these poetical works are remarkable for their neat, correct, trimmed verses.

But the poem which laid the real foundation stone of Pope's literary fame was *Essay on Criticism*, published in 1711. In this young age (the 'Essay' was written in 1709) the poet gave proof of his consummate skill in the manipulation of his subject. The doctrines which Pope inculcates in his *Essay on Criticism* are so forcibly put that they deeply impress the reader's mind. I quote below Mr. W. H. Low's notice on the *Essay*.

"The poet divided it into three sections—*viz.*, 1—200, 201—559, 560 to the concluding line 744, which may be summarized as dealing with (a) the need of studying the principles of taste, the necessity for relying on Nature not alone, but improving our judgement by art, by studying the ancients and reverencing them; (b) the causes that hinder our judging correctly—habit of looking at a part separate from the whole.

Pope's *Rape of the Lock* is a mock-heroic poem in two cantos. It was a splendid success and was "incomparably superior to all other mock-heroic poem the world has hitherto seen."

In 1715 appeared his translation of *Homer' Iliad* and ten years later his *Odyssey*.

His *Essay on Man*, published in 1734, "is an ethical and metaphysical poem consisting of four epistles, and addressed to Bolingbroke." Thomson analyses the poem in this way: "In the first epistle man is regarded in his relation to the universe; in the second, in his relation to himself; in the third, in his relation to society; in the fourth, with respect to his idea of, and pursuit after, happiness."

But Pope's *forte* lay in satires, and *Dunciad* is his best-known work. It saw the light in May 1728. These satires are dictated more by personal spleen than by the unworthiness of their subjects. Reason, the *Dunciad* has none. Never was genius and learning reduced to such base malignity; and one amusing thing in it, is that many persons, in the literary world of England, would have been hopelessly forgotten but for the immortality they have earned by virtue of some but of real or fictitious provocation each of them had knowingly or unknowingly advanced to the satirist's person or sentiment. To a modern reader of the *Dunciad*, it appears that the names of men (otherwise unnoticed) who have been honoured with seats on the "throne of idleness" are raked up from the bottom of the oblivious cave to which they would have been eternally condemned but for the kind cruelty of Alexander Pope.

Pope's other satirical works are *Moral Essays*, which includes *Essay on Man* and *Satires and Epistles*.

Pope also edited Shakespeare. His edition of six volumes appeared in 1725. A careless and imbecile work, it hardly deserves a place even among the average Shakespearean commentaries. Pope betrays a hopeless want of critical discernment, and ignorance of system or method. Theobold's edition came out about the same time, and he achieved far grander result. He criticised Pope's Shakespeare, and thus gained an enemy, and lost a friend for the rest of his life.

Johnson's critical account of Pope and his works, is useful. Here are extracts from it.

"* * * the poet was not sufficiently master of his subject; * * *; he was proud of his acquisitions, and supposing himself master of great secrets

* 1688—1744.

was in haste to teach what he had not learned. * * * . Never was penury of knowledge and vulgarity of sentiment so happily disguised. * * . Surely a man of no very comprehensive search may venture to say that he has heard all this before; but it was never till now recommended by such a blaze of embellishments, or such sweetness of melody. The vigorous contraction of some thoughts, the luxuriant amplification of others, the incidental illustrations, and sometimes the dignity, sometimes the softness of the verses, enchain philosophy, suspend criticism, and oppress judgement by overpowering pleasure."

Sir Samuel Garth[1] is essentially the author of *The Dispensary* (1699), and *Claremont* (1715). Mathew Prior[2]'s chief work is *The Country Mouse and the City Mouse*. This was written in conjunction with Charles Montague, Earl of Halifax[3], and and in imitations of Dryden's 'Hind and Panther,' apparently to ridicule it. This, with his other poems *Alma* and *Solomon* does not give us the best of Prior. Indeed, the best of him, we find in his charming love-song and epigrams John Gay[4] is perhaps far more known than either Garth or Prior, and his most successful attempt was *The Beggar's Opera* 1728. Besides this, Gay's other works are, *The Shepherd's Week* (174), *Trivia* (1716), and the collection of *Fables* (1727) in octosyllabic verse, which were expressly written for the education of William Duke of Cumberland. "Gay's real talent, " says Thompson, " lay in writing dramatic prices of comic order, with songs as *intermezze*." His songs are cadent, pathetic, and charming and their numbers have the rare attribute of being in perfect keeping with the air to which they are sung. Edward Young[5] gave us his *Night Thoughts* in 1744. This is a series ofpoems, in which Young recorded his gloomy reflection on Life Death and Immortality," inspired by the sad circumstances, of the death of his wife, of his step-daughter and of her husband, almost simultaneously. These were in blank verse. His other works are *The Last Day* (1713), and a group of seven satires called *The Universal Passion* (1725-28).

The Lowland-Scottish poetry found its champion in Allan Ramsay[6], He "was to form the link between the old bards of the stewart epoch and Burns, who was born the year after his death,"* His famous *Gentle Shepherd*. published in 1725, is in pastoral form, describing the village life and the rural pleasures of Scotland. He is also known to have completed the ballads *Christ's Kirk upon the Green* left by King James I, in an unfinished state, about three centuries past. Ramsay's addition is fa inferior to the composition of King James

Jonathan Swift was essentially a prose-writer. Even his poems are matter-of fact and prosaic. His style is not at all florid or orn mented. With the plainest of phrases and and idioms, he hits his point with remarkable success. He cared not for the style of his writing, but for the matter only. Thus, he may be said to have run the risk of becoming vulgar. But his sincerity, want of affectation, and straight forwardness never stooped to vulgarity. He was always plain and decent, and his plainness has occasionally been regretted by some, who would have liked to find in him some bit of emotion.

Swift was, as I have said essentially a prose-writer ; and he was, to all intents and purposes, the master of prose-satire in English. In this respect, his position has been distinguished from Rabelais's and Voltaire's. "The three greatest satirical wits of modern times possess each his inidividual manner. Rabelais, with his frantic animal spirits, pours forth an astonishing mixture of erudition and ingenious buffoonery ; Voltaire, with a sly grin of contempt, makes everything he attacks appear despicable and odious ; but Swift inspires us at once with loathing and contempt. We laugh with Rabelais and sneer with Voltaire, with Swift we despise and abhor.' "*

1. 1660-1718.
2. 1664-1721.
3. 1661-1715.
4. 1685-1732.
5. 1684—1765.
6. 1686—1785.

* Thompson.

* Thomp on.

The typical prose writing—indeed the greatest of the prose works of Swift, is undoubtedly his *Gullivers Travels*, published in 1726. Outwardly a harmless book, it is, when read between the lines, "an outrageously embittered satire on human race." *The Tale of a Tub*, published in 1704, ridicules the Popist and the Presbyterian party, in defence of the Anglican chuch. Besides these he was the author of several political and satirical pamphlets.

But the romantic passages of Swift's life are recorded in his *Journal to Stella*. The "Stella-Vanessa" episode is an actual tragedy of his life. It was this. Swift was the tutor of Esther Johnson, whom he affectionately called Stella. The bon between the teacher and the pupil developed a peculiar character, and attachment grew. It is not recorded, whether they married or not; but this is true that they communicated with and was closely attached to each other. At this stage, Swift became intimate with another girl named Hester Vanhomrigh ('Vanessa'), who was beautiful and accomplished. She was madly in love with Swift; and one day she threw herself at his feet and declared her passion. Swift did not marry her, nor did he dismiss her. Either of these steps would have been fair on his part. But he did neither, and it appears that he encouraged her in her advances. Vanessa was, however, wildly anxious to learn the real relation between Stella and Swift, and accordingly wrote to her a letter, which was intercepted by him. He came and threw the letter in her face, with a look of admonition. Vanessa died the same year, it is believed, of broken heart—a tragic sacrifice, no doubt.

Joseph Addison[1] introduced a new element into English literature. 'Essays' were known before this, but not exactly of the type of Addison's compositions. Bacon's terse, pregnant, philosophical dissertations, present a strong contrast to the graceful, light, commonplace *Essays* of Addison. In fact, he is the 'Spectator', whose object is thus stated in the tenth essay:—

"I shall endeavour to enliven Morality with Wit, and to temper Wit with Morality, that my Readers may, if possible, both Ways find their account in the Speculation of the Day. * * * I shall be ambitious to have it said of me, that I have brought philosophy out of closets and Libraries, Schools and Colleges, to dwell in Clubs and Assemblies, at Tea tables, and in Coffee-houses."

That is what the Spectator aimed at, and he was certainly successful in his mission. While indulging in apparently light and gamesome recreations, Addison had always a moral and serious end in view.

But *The Spectator* was not all Addison, and it is only fair that Richard Steele[2] should have his due share of credit. His talent secured for him the post of the editor of the official "Gazetteer" in 1709. In the same year he founded *The Tatler* which ran till 1711, when *The Spectator* took its place, which again was *succeeded* by *The Guardian* in 1713. In all these magazines both Addison and Steele contributed; but it is noteworthy that while Steele was the person who launched the affair, Addison's talent was the thing which made them successes.

Still, as Macaulay has said, *Addison is the 'Spectator'*. Besides his work in *The Spectator*, Addison was also responsible for *The Campaign* (1704), celebrating Marlborough's triumph. His *Account of the Greatest English Poets*, published in 1694, is notorious for its ignorance of Shakespeare. His first poem, however, was *To Mr. Dryden* (1693).

Steele had made a name for himself by his *The Procession*, a poem in honour of Queen Mary's funeral. He wrote quite a number of plays, *e.g.*, *The Conscious Lovers*, *The Funeral*, *The Lying Lover*, and *The Tender Husband*.

Another name which is well-known to every student of English literature is Daniel Defoe[3], the celebrated author of *Robinson Crusoe*. As a novelist his is a peculiar position. The nature of the fiction-literature, as it now stands, is quite

1. 1672-1719.

2. 1672-1729.

3. 1661-1731.

away from the nature of *Robinson Crusoe*, though owing to this very work Defoe is called 'the founder of the English novel' *Robinson Crusoe* is an admirable story of a shipwrecked man The way in which Defoe has built up his plot is striking indeed It is a realistic picture that we find before us and not a story The story is transmuted into history by the magic touch of Defoe's pen By his singular manner of handling materials, Defoe has almost imposed upon the reader, who is led to believe that he is reading a real account of adventures and not a mere fictitious narrative Defoe's *Captain Singleton* dated 1720 is also a mirror of his work written on the lines of *Robinson Crusoe* His *Journal of the Plague Year* (1722) was long believed to be a contemporary description of the horrors which befell London in Defoe's infancy But it is no more than a romance in which only certain well known facts of the time and place Besides these he was the author of *Colonel Jack* *Moll Flanders* and *Roxana* and *The Political History of the Devil*—works of real excellence In his *Memoirs of a Cavalier* published 1720 realities are combined with fiction in a respected

The minor though hardly less significant, prose writers of this age were Lord Shaftesbury a refined writer on manners and mind Lord Bolingbroke a politician and orator Francis Atterbury an eloquent theologian and John Arbuthnot, the well known author of *History of John Bull*, published in 1712

A. J. A.

1.	1671-1713	1.	1671
2.	1672-1732	2.	1677-1745

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A Weekly Review of Literature Science and Art

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REVIEWS
AND MINOR NOTICES

Educational Buildings in India (Government of India, Department of Education, Price Rs or 7s 6d)

We are thankful to the Government of India Education Department for this handsome volume

The suggestions of Mr Begg the consulting architect to the Government of India regarding the Style of Indian Educational Buildings is worth noting The half tone pictures of the buildings and especially the plans of model institutions in different provinces are much illumining We expect with eagerness out other corresponding volumes containing their superior buildings

La Mare au Diable par George Sand (1s 6d) and *Victor Hugo's Bug Jargal* (2s, edited by J Victor Massard (Rivingtons, London)

These books are prepared according to the newer direct method, and each is provided with a French English vocabulary. A feature of the series is that the *Notes* are bound separately from the text thus affording material assistance to the student in his preparation They are excellent in their own way We congratulate the author for his scholarly annotations, which will enable the student to thoroughly master the books

First Lessons in Latin Grammar and Translation by W Greenstock, B A, Rivingtons London Price 2s 6d)

An excellent little volume for beginners. The object has been to combine Grammar with Translation so that boys may from the beginning "learn grammar applied in form of sentence" Another notable point is the frequent revision of previous exercises. It contains everything to learn Latin grammar.

Great Educators of Three Centuries by J P Graves, Ph D. (Macmillan & Co., London 5s net)

The author has given us excellent biographies of the more important educators since the Renaissance He tells us that this short summary is an outgrowth of his lectures From Bacon's method put into practice by Comenius and reaching its extreme in the hands of Locke

we turn to Germany where the theories of Rousseau and Pestalozgi were put into practice by the great educationists Francke and Basedow. Then came the influence of Herbart who founded his new system of Education. Froebel's kindergarten Lancaster, Bell, and Herbert Spencer are all included. But we do not find the name of Kant or his famous educational theories. We congratulate Dr. Graves on this excellent production.

Pitt and Napoleon: Essays and Letters. by J. H. Rose (George Bell, London. 10s 6d net.)

We know Dr. Rose from his 'Life of Pitt," and the great care he takes and thoroughness which always mark his work. The author has taken pains to collect the vast materials required for this sort of work. The present work, as will be seen from the title, consists of essays, dealing for the most part with particular aspects or episodes of Pitt's careers and of letters written to or by Pitt or relating to him. Napoleon's projected invasion of England, his Continental system, (Trafalgan, Berlin Decrees, Spain and Russia) are discussed in all the various aspects.

The Fall of the Mogul Empire. By Sidney J. Owen (John Murray, London. 7s 6d net.)

Mr. Owen is quite competent to handle with Indian History Problems, when we see that besides being a Reader at Oxford for a long time and expert in his subject he was a Professor in India. The period of Indian History, tackled here, covers more than a hundred years from the illness of Emperor Shah Jahan in 1657 and his deposition to the fatal battle of Panipat in 1761, when the Afghans broke the Mahratta power. The author has spared no pains to make his work attractive as far as possible. His theory that Aurangzeb's successors never had a chance of retrieving their position, created by the folly of Aurangzeb and the Mahratta power, is not altogether new, for this view of the Mogul Ruin has been held by other authors in India.

SCIENCE NOTES
AND OTHER INTERESTING ITEMS.

World's Largest Telescope

The Yerkes teloscope is the biggest refracting telescope in the world and owing to the enormous difficulty of making object glasses of that size (the diameter of the object glass is 3ft 4 in.) is likely to remain so. The late Mr. Yerkes amply provided for his observatory in his will, and no similar institution is so free from financial worries. But though there are no bigger refracting telescopes, there are bigger instruments on the reflecting principle, and both Harvard College Observatory and the Mount Wilson Solar Observatory possess reflectors with mirrors of 5ft. diameter. But Mount Wilson is not satisfied, and a millionaire has placed about £10,000 at its disposal for the making of a 100in. mirror, which up to the present the French firm entrusted with the task has not succeeded in producing. Lord Ross's 6ft. mirror in Ireland is, of course, not to be compared with America's up to date reflectors, which are so mounted that the observers sit in comfortable armchairs in cosy rooms and manipulate the great instruments by electricity.

Temperature or Level of Heat.

Some teachers draw in class thermometer scales reading from absolute zero to 3500°C. with interesting temperatures marked thereon. Note the distance on the scale between the highest tropical temperature and the lowest arctic reading, and compare with the distance from the boiling-point of hydrogen—253°C. to that of carbon, 3500°C. The object of the diagram is mainly to give a concept of temperature as denoting the heat-level. The weak point has been a sense of insecurity with regard to the accuracy of the higher temperatures. From a paper published in *Nature* of July 18 we learn the National Physical Laboratory experience of the practical range of thermometers. The mercury in silica thermometer gives reliable results up to 600° C., and the optical pyrometers from 600° C. to 3500° C. The optical pyrometer is really a photometer which measures the intensity of the light emitted from the hot body.

So recently as last May we were drawing

attention to the lectures given in London by the great French physicist, Henri Poincare, and now the world of science is poorer by his sudden death. Some of our readers will be interested to hear that one of the lectures, entitled "The Relations between Matter and the Ether," is now published *in extenso*. The magneton or discrete unit of magnetism, the structure of the atom, the Brownian movement (pedesis) are among the topics included in a brilliant exposition of modern 'views' —or perhaps we should say "working hypotheses."

The late Henri Poincare.

The Palm Farm, three miles north of Herrin in Clinton county, has been named the "farm of death" says a correspondent of the "Philadelphia Record." Mr. John Ackerman is the latest victim of the unknown agent that has taken the life of every person who has lived there for any length of time. Eight other deaths are known to have been caused from the same source.

Farm of Death

All the science known to the modern world of medicine was tried, but the patients gradually weakened and literally faded away, dying in great agony. The disease attacks the victims, an internal fever being the first symptom followed by extreme cramps and serious constipation. Death follows in every case.

Mr. Godfrey Palm's death was followed by that of his wife eight days latter. A son and daughter were stricken and both died in terrible agony, the symptoms being the same in every case. For a time the farm became isolated and a tenant could not be found. The water was not used although a chemical analysis failed to disclose any substance that was of a poisonous nature. Nor was the milk from the cows used, yet all these precautions failed to protect the lives of those who have lived on the 'farm of death."

Each morning before sunrise a heavy fog envelops the farm, and has a strong, sulphuric odour and a stifling effect on the one who breathes it. Recently Mr Ackerman, the latest victim, killed a hog and hung it out to cool. The carcass spotted and the meat became soft, and was thrown away. No other farms in the neighbourhood are affected.

Mr. Justice Chandavarkar, writing in the "Times of India", tells the following story illustrative of the Mahratta spirit of independence: One morning, as I was out for a walk in a village, I came across a group of men women, and children, all Mahrattas. They had travelled in bullock carts from a city and were journeying to their village, because the season of cultivation was near. They unyoked the bullocks to rest awhile before marching on. As often happens in such cases, the men were all quarrelling, the women were unpacking to cook food, and the children were crying. It was all a babble of tongues. As I stood observing I found one child piteously crying to its mother for something to eat. The mother, busy unpacking was chiding the child "Dead thing, keep quiet. What can I give you to eat here in this jungle?" The sight of the crying child moved me, and I said to the mother, "Look here, there is within a few yards from here a man selling mangoes. Buy some and give to the child. Here are some copper coins for you to buy. I made the appeal, expecting response. But the woman turned her anger from the child to me and said, "A Bajirao has come!" Bajirao was a peshwa, who lived ostentatiously, and any man who makes a parade of his wealth is called a Bajirao. "A Bajirao has come!" continued the woman. "Do you think we are beggars that you offer money? keep your copper to yourself; we have hands and feet, and can work and earn like you." I thrust the coins back into my pocket and attempted to explain, but the woman would not listen. She kept on saying, "If you are a Bajirao, be so at home. Don't insult us because we are poor. Soon the woman's husband, noticing the incident appeared on the scene. He was more calm than his wife. I told him what had occurred. He said: "My wife, sir, is right. We are workmen, though poor, and live on what little we earn by our toil. It is a shame to live on charity.

Mahratta Independence

CUTTINGS

ROYAL SOCIETY ANNIVERSARY.

MR ASQUITH'S SPEECH

(*Continued from Page 280*)

The bulk of the original Fellows of the Royal Society appear to have been in the words of your first historian Bishop Sprat "gentlemen free and unconfined" and the Society to this day numbers among its Fellows those who, like myself, have no claim to take any part, certainly any part but that of spectators in the knowledge and pursuit of the natural sciences and who belong like our predecessors in the reign of Charles II so far as this branch of activity is concerned to the category of the unemployed (Laughter) In the genial diary of Samuel Pepys himself a Fellow and indeed at one time I think President of this Society there are entries which throw light on its early activities, which in those days, whatever may be the case now, were so much given to experiment On one occasion he records meeting in a tavern a man, a little frantic, whom the College hath hired for 28 shillings to have some of the blood of a sheep let into his body and it is to be done on Saturday next' (laughter) and from a later entry it appears that 'the gentleman found himself much better since and is a new man, and will have it done again but"—adds the diarist— he is a little crazed." But if we are too ready to laugh at these early extravagances of experimental science it is as well also to remember that it was under auspices of Pepys that Newton's "Principia" was produced

I will not linger over these reminiscences of the early days of the Society The foundation so fairly started has had a continuous career of success and illustrious work has not escaped its share of criticism and ridicule but it has justified itself by its deeds. The position which makes the letters F. R. S one of the proudest additions which an Englishman can make to his name has been won by the sheer weight of meritorious work

The Society has not, I think, at any time had any direct financial assistance from the Government For this the Government may be criticized But I venture to think the Society is to be congratulated. (Cheers.) It is not well that science should be a mendicant for State endowment. I do not forget the annual grants for scientific research which are administered by the Society but their administration is not a benefit conferred on the Society by the State but a service conferred on the State by the Society (Cheers) It would not be possible for any one to traverse in a few moments the history of this Society or to chronicle the achievements of its Fellows without at the same time traversing and chronicling the history of English science itself There is hardly a year when your roll has not been enriched by a name to which not only we as Englishmen but the whole world is indebted for a share in the slow but steady subjection of Nature to the intelligence I mean that process which has been described in Bacon's immortal words 'Natura non nisi parendo vincitur" If we look at the names of Isaac Newton who was I think for a quarter of a century President of this Society and Locke Flamsteed and Halley Sir Hans Sloane Adam Smith and Grote Wollaston and Watt Davy and Faraday Priestley and Young or closer to our own time Darwin Huxley, Hooker Herschel Huggins, Sir Michael Foster Lord Kelvin and one whose loss we lamented only a few months ago perhaps the greatest benefactor in our time of the human race Lord Lister—the roll contains the names of England's worthiest children in the wide field of work which is comprised in the original project of this foundation And the Royal Society which honoured them and was honoured by them is remembered when we remember them one and all It has grown with the growth of England it has advanced with advance of science, and it stands now after 250 years firmly established in the confidence of the nation and the respect of the world still faithful, still fruitful in the cause of human progress and human enlightenment

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VOL. II **THE COLLEGIAN** No. 11

All-India Journal of Education

CALCUTTA, THURSDAY, SEPTEMBER 12, 1912

Sir Narayan Ganesh Chandavarkar resigns his office as Vice-Chancellor of the Bombay University to take up his new appointment as Member of the Bombay Executive Council. One of the best read and most cultured of Indian patriots Sir Narayan is a loss to the Bombay University. During his tenure of office which extended for four years, several reforms were introduced in the Bombay University among which the opening of the Faculty of Commerce may be mentioned as an important one. The period of his office synchronised with that of Sir George Clarke's Governorship and Chancellorship. His excellency is undoubtedly the most energetic and active Chancellor of an Indian University always keeping himself in touch with University affairs. With such a man at the head of affairs Sir Narayan Ganesh Chandavarkar found it always possible to carry out any improvement in the right direction, for Sir George Clarke had always been in favour of reforms which was evidenced by his learned speeches and letters in connection with any educational movement. The introduction of some of the University reforms gave rise to acute controversies—the reason for some of them being Sir Narayan's attempt to give effect to his own independent opinions, which is but natural for a strong man of principle. But no one can doubt his sincerity and disinterestedness, which his learned convocation addresses—much above the level of some of typical Indian University convocation addresses—testify. We welcome Mr. Justice Heaton the new Vice-Chancellor and we hope he will keep up the reputation of the University as in Sir Narayan's time.

Sir Narayan Ganesh Chandavarkar

* * *

Medical College for Women, Delhi

To commemorate the visit of Her Imperial Majesty the Queen Empress to Rajputana, Her Highness the Maharani of Kotah made a gift of a lakh of rupees to be spent for the benefit of the women of India. Her Excellency Lady Hardinge determined to make this donation the nucleus of a fund for founding at Delhi a Medical College and Hospital for women to be called, with Her Imperial Majesty's consent which will be sought in due course if the necessary funds are forth-coming, "The Queen Mary Medical College and Hospital."

The need for such an institution has long been felt as it has hitherto been found impossible to get enough Indian women of the better classes to come forward to take up the medical profession owing to the fact that they can now receive instruction only in men's colleges and in mixed classes. It is felt that until this defect is remedied it is idle to hope for the creation of an independent profession of medical women recruited in India, and that without such practitioners it will be impossible adequately to alleviate the sufferings of those classes of Indian ladies who do not attend the public hospitals or call in male doctors.

The idea of such an institution has been readily taken up by other Ruling Chiefs and generous offers of financial support have been received from several of them.

Half the initial sum of fifteen lakhs required has been raised owing to the generosity of these donors. This sum is the amount required for buildings and equipment. In the meantime the Government of India will be approached as to their willingness to help towards the recurring and the maintenance charges.

Lady Hardinge has also decided to merge into this bigger project, if it finally takes shape, her scheme for a school for training Indian women nurses and midwives who will be prepared for district work among women where atpresent female medical aid is conspicuously absent. These nurses will also be available in cases of illness in private families and some will be trained to act as skilled children's nurses for service in Indian home.

It is very gratifying, indeed to learn that Mr. Anantarama Iyer the Fouzzadari Commissioner has invested a lakh and fifty thousand rupees in the Government of India Pro. Notes for charities, the net annual dividend from the said investment amounting to about Rs.5,000. Out of this sum Rs.1800 has been set apart for the purpose of awarding certain Scholarships in H. H. the Maharajah's College and in the Higher Grade Secondary Schools of the Travancore State. The Travancore Government is, by the deed of settlement, constituted sole Trustee and the scholarships are to be awarded to Brahmin students of the Mukani sect.

Educational Endowments

* * *

The experiment of Free Primary Education has been in progress in the Jamkhindhi State for the last six years Jamkhindhi has a population of just over a lakh. There are 75 free schools in the State, with 6204 students on the roll Last year one new school was opened and 339 pupils added to the roll. In town schools education is given up to the 7th (vernacular) standard ; in the village schools up to the 4th standard. Low caste boys are supplied free food books and slates, and are given scholarships, in order to draw them to schools, with the result that there are 258 boys and 52 girls from these classes in schools at present. The total expenditure on education amounted to one-fifteenth part of the revenue of the State.

Free Primary Education

Primary education has been made free in Jhind State and several girls, schools have been opened.

* * *

THE Director of Public Instruction had proposed to Government the opening of certain new Government Girls' Schools in the three Inspectresses, circles and the attaching of a training section to the Government Girls' Schools, Karuntattangudi Tanjore, in the central Circle which the Government have sanctioned generally. In the Northern Circle, three new schools will be established, one each at Vizianagram. Vellore and Bezwada, and the Hindu Girls' School at Guntur will also be taken up by Government. In the Central Circle, it is proposed to start a Mahomedan Girls' School and a Hindu Girls' School at Tiruppatur, the Mission School, situated in the Hindu quarter of the

Government Girls' Schools Madras Presidency

town. which has been in existence for the last twenty years, not being popular owing to the religious instruction imparted therein, more than a hundred Hindu children being reported to be kept away on that account. At Tirupati, the Municipal Telugu Girls' School will also be taken up by Government. A new school will also be establised at Tiruvadamardur. To the school at Karuntattangudi (Tanjore) will also be attached a training section which is expected to attract Hindu female teachers in the Tanjore district and which should afford training in both the elementary and secondary grades. Provision will also be made for the training of five secondary Hindu mistresses on a stipend of Rs. 12 per mensem, and for the training of the elementary Hindu mistresses on Rs. 9 each, the total cost of stipends amounting to Rs. 2,880 per annum. It is also proposed to open four new Hindu Girls' School at Kulittalai, Ramnad, Ambasamudram and Guruvayur (Malabar) and one Mahomedan School at Palghat. The total annual cost is expected at Rs. 25,000.

* * *

Education of Panchamas

The following extract from the Administration Report of Madras will throw much light on the subject. There was an increase both in number and strength of schools intended for Panchamas which on the 31st March last numbered 3,983 with 102,018 pupils against 3,457 with 82962 pupils on the corresponding date last year. The increase in the number of schools was shared by both public and private institutions. The number of Panchama scholars in public institutions of all classes rose further from 64,846 (55,183 boys and 9,663 girls) to 67,847 (57,645 boys and 10,302 girls). There was again not a single pupil in a college. In secondary schools there were 303 boys and 63 girls, or 9 and 25 respectively, fewer than in the previous year. Sixty-six males and 10 females were undergoing training in training schools and 39 boys were receiving instruction in other special schools. Taking public and private institutions together there were 69 963 pupils including 10,367 girls against 66,658 including 9779 girls in the previous year, the percentage to the corresponding population of school age having risen from 18·6 to 19·5 in the case of boys and from 3·1 to 3·2 in the case of girls. The percentage of pupils under instruction to the male population of school age was the largest, viz., 91·5 in Tinnevelly, and Madras came next with 68 per cent, while South Canara held the last place with 1·5 per cent., thus maintaining the place they held last year. Taking boys and girls together, the percentage had risen from 10·7 to 11·2. The expenditure on Panchama schools during the year aggregated Rs. 5,42,068, towards which provincial funds contributed Rs 1,33 289. local funds Rs. 73,809, municipal funds Rs. 36 085, fees Rs. 15198 and other sources Rs. 283,687. Public funds met 45 per cent, fees 3 per cent, and private funds 52 per cent.

* * *

College for Women Dacca

A college for women in Dacca is the aim of the local educationists. and it is expected that efforts will be made to carry the proposal into effect before long. It is pointed out that such an institution should be governed by a European lady of sound teaching knowledge.

* * *

Death of a Calcutta Professor

We regret to record the death of Mr. Amulyadhone Banerji best known as Prof. A. Banerji of the Presidency College which melancholy event took place at Benares on the morning of the 12th August where he had gone for a change. A message of his death reached the College authorities at about 1 p.m. when the Principal circulated the sad news and in his honour closed the College. The deceased was a very popular youngman both at home and abroad and his death has cast a gloom over his friends, relatives and students. We offer our hearty condolence to the bereaved family.

* * *

Dr. Prabhu Dutt Shastri

Dr. Prabhu Dutt Shastri, M.A.,M.O. L., Ph D., D. Thel; B. Sc. (Oxford) offg. Principal Oriental College, Lahore, recently appointed by the Secretary of State for India to the Indian Educational Service as Professor of Philosophy Presidency College, Calcutta, returned from Europe last year after winning high distinctions in different Universities of the West. Besides being a first rate Sanskrit scholar trained in Western method of research he has a unique record in Philosophy. After graduating six times in the Punjab University, he took his B. Sc. 'in mental and moral science' in class I in the University of Oxford. There he specialised in Psychology and Metaphysics

and attended all courses of other lectures in Philosophy. He also made a special study of Plato, Kant and Scopenhauer in Germany, where he took his Ph. D. in Philosophy with high honours. Besides he came in contact with some of the living exponents of modern European thought. He was with Professors Euckin and Haeckel at Jena and also spent sometime with Prof. Bergson in Paris. He visited almost all countries of Europe and met most of the thinkers of to-day. He was honored at the last International Congress of Philosophy held in Italy being requested to preside at one of the sections namely "Philosophy of Religion." That is a distinction of which every Indian could rightly be proud, Dr. Sastri was also awarded the sum of Rs. 1000 by the Oxford University as recognition of the merits of his research in mental and moral Philosophy. We wish Professor Shastri prosperity and success

* * *

Free Libraries Bombay

Seth Damodardas Sukhadwalla J. P., has given a donation of Rs. 2000 towards the movement, of the Travelling Free Libraries started by the Social Service League Bombay. The League has already begun work at about ten centres, and Mr. Sukhadwalla's donation will enable them to extend the work rapidly. It is hoped Mr. Sukhadwalla's example will be followed by other generous and wealthy people.

In Europe, America and other civilized parts of the world a Free Library is regarded as one of the most important means of promoting mass education and such libraries are found even in almost all villages there. There are some free libraries also in Bombay ; but their number is very small and very little use has been made even of the few that there are on account of the masses being very backward and having no taste for reading. In order first to create this taste in them it is necessary to bring our libraries almost to their door and the starting of Travelling Free Libraries is the only way of achieving this object. The enlightened Government of His Highness the Maharaja Gaekwar of Baroda has already formed an elaborate scheme for establishing Free Libraries throughout the State and we wish the experiment although on a very humble scale, in the City of Bombay, all success. (*Vide* Section : SCIENCE NOTES.)

* * *

Asiatic Society of Bengal Monthly Meeting

At the monthly general meeting (September) of the Asiatic Society of Bengal, Mahamahopadhyaya Haraprasad Shastri exhibited the genealogical tree of the Rathor family and of a photograph of Sihoji, and founder of the family with some manuscripts of the 12th century. Mr. S. W. Kemp exhibited photographs (lantern slides) taken in the Abor country. The following papers were read :—1. Preliminary Note on the Origin of Meteorites, By L. L. Fermor. D.Sc., A. R. S. M , F. G. S, ; 2. Remarks on the Tibetan manuscript Vocabularies in the Bishop's College, Calcutta, by Rev. Fr. Felix, O. C., Communicated by Rev. H. Hosten, S.J.; 3. Earliest Jesuit Printing in India—from the Spanish of Fr. C. Gomez Rodeles, S.J., by Fr. L. Cardon, S.J. Communicated by Rev. H. Hosten, S. J. ; 4. The Bakhshali Manuscript by G. R. Kaye ; 5. A possible chemical method of distinguishing between seasoned and unseasoned teak wood, by Anukul Chandra Sircar, M.A., F. C. S., Premchand Roychand Scholar. Communicated by Mr. E. R. Watson ; 6. A Biography of Santi Deva, the author of Bodhicaryyavatara by Mahamahopadhyaya Haraprasad Shastri, C. I. E.

* * *

Sahitya Parishad Bengal

The annual meeting of the Barisal branch of the Bangiya Sahitya Parishad came off at the house of Babu Deva Kumar Rai Chowdhury, Secretary. The report of last year's proceedings was read showing 12 monthly sittings in which several members read essays on historical, philosophical, scientific, archæological and purely literary subjects of which ten selected essays are going to be printed at the cost of the Parishad. The number of members is 157. The income for the year is Rs. 617 and the balance Rs. 400. The donors deserving special mention are the Secretary Rs. 300, Nawabzada Syed Mahammad Hussain Rs. 50 and Chowdhury Ismail Khan Rs. 50. A Committee was then formed and office bearers elected with Babu Ganesh Chandra Das Gupta M. A., B. L., as president and Babu Deva Kumar Rai Chowdhury as Secretary. With thanks to the retiring President Babu Nibaran Chandra Das Gupta M. A., B.L., and to the Secretary the meeting dissolved.



CALCUTTA UNIVERSITY.

Exam. Results

At the Intermediate Examination in Law held in July 1912, 390 students have passed of whom 34 are placed in the First Division and 356 in the Second Division Probodh Chandra Dutta from University Law College headed the list of successful candidates. *First Division*: University Law College—20; Ripon College—7; Dacca Law College—5; Patna Law College - 2.

Affiliation

On the recommendation of the Syndicate and the Senate, the Government of India have been pleased to order that under section 22, read with section 21, sub section (3) of the Indian Universities Act (No. VIII of 1904), the Rangoon College shall be affiliated to the University in Physics up to the I.A. and I.Sc. standards, with effect from the commencement of the current session.

Senate Meeting

A formal meeting of the Senate of the Calcutta University was held on the 31st August at the Senate House, College Square, when Sir Ashutosh Mookerjee, Vice-Chancellor, presided over a fair attendance of fellows. There were in all fifteen items on the agenda of which the first related to the to the change of curriculum of the Practical Course in Geology for the B. Sc. examination while the rest were all applications from candidates to the various University examinations to be permitted, for reasons mentioned therein, to appear at such examinations as non-Collegiate students, with the recommendations of the Syndicate in each case. The Senate accepted these reccomendations.

MADRAS UNIVERSITY.

B. A. Text Books

In modification of the lists of text-books for the B.A. Degree Examinations of 1 13 and 1914 (old bylaws) published in the Calendar for 1912 at pages 340–346, it is notified that the Syndicate has resolved that the text-books in the following languages for those Examinations be the same as those prescribed for the B.A. Degree Examination of 1912:—Sanskrit, Marathi, Uriya, Tamil, Telugu, Kanarese and Malayalam.

Scholarships

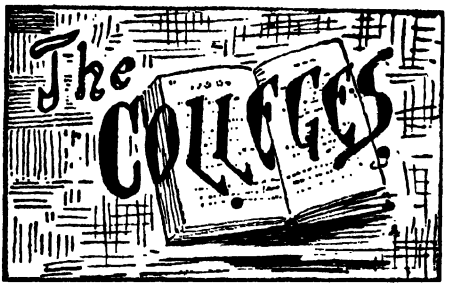
The Government of Madras have sanctioned a grant of Rs. 1,650 towards the Wenlock Memorial Scholarship Fund, raised to found a Scholarship for Mahomedans in memory of the late Baron Wenlock. The Scholarship will be of the monthly value of Rs. 10 and will be awarded to a Mahomedan studying for the degree of B. E. or, in the absence of such a candidate and in the following order of preference to a Mahomedan studying for L. T. or M.B. and C.M. or B.L. The Scholarship will be awarded by the Mahomedan Educational Association of South India.

The Director of Public Instruction is pleased to award a Government scholarship of the monthly value of Rs. 20 tenable for two years from 1st July 1912 to each of the undermentioned students to enable them to engage in post-graduate study in Physics:—S. Narayan St. Joseph's College, Trichinopoly, T. N. Krishnaswami Aiyar, Presidency College, Madras Manjunath Mulky, Presidency College, Madras, C. P. Narayanan, Madras Christian College.

BOMBAY UNIVERSITY.

New Vice-Chancellor

The Hon'ble Mr. Justice Heaton is appointed Vice-Chancellor of the Bombay University, in the place of the Hon'ble Sir Narayan Chandavarkar, resigned.



and Schools.

Edward College Pabna

KUMAR RADHICA BHUSAN RAY, son of Rajarshi Roy Bonomali Roy Bahadur a zemindar of the district, promised at His Excellency the Governor's Durbar at the local Town Hall, a donation of Rs. 50,000 towards the funds of the Pabna Edward College in honour of His Excellency's first visit to the district. As this fulfilled the condition imposed by the Government that it would contribute Rs. 50,000 provided a similar amount was locally raised, His Excellency was pleased to announce a donation on behalf of the Government of the said sum towards the up-keep of the college. Lord Carmichael publicly expressed his appreciation of this munificence and thanked the donor in suitable terms.

Presidency College Calcutta

The Students of the Presidency College arranged an evening party on the 8th inst. to meet Dr. P. C. Roy, C. I. E. Ph. D., D. Sc. Professor of chemistry who has just returned from England after attending the Empire Universities Congress. The function was very successful. Many distinguished guests were present including Sir Gooroo Dass Banerji who composed two Bengali Songs for the occasion. Principal James in a nice little speech paid a tribute to the worthy guest of the evening.

Cotton College Gauhati

POST-GRADUATE SCHOLARSHIP of Rs. 30 a month is granted to Srijut Trailokya Nath Hazarika who passed the last B. Sc. Examination from the Cotton College, Gauhati. The scholarship will be tenable at the Presidency College, Calcutta, for two years. This is, perhaps, the first time of an Assamese securing such a scholarship.

George Institution Dibrugarh

THE HON'BLE CHIEF COMMISSIONER recorded the following remarks after inspecting the school :—"This school deserves the sympathetic consideration of the Education Department. This is a creditable attempt to solve an undoubted difficulty, namely, the inadequacy of our Government High School to meet the needs of the place. The organisers hope to get it affiliated soon. They are acquiring land and erecting buildings. Apart from any help which the Department may recommend and which I may hereafter give after hearing from the Director of Public Instruction, I wish a sum of Rs. 1,000 to be paid to the organisers towards their scheme as a souvenir of my visit.

(Sd). A. Earle, Chief Commissioner of Assam, 21-8-1912."

THE POWELL AND MOREHEAD PRIZE.

Presidency College Madras

The subject for the above prize is "a careful estimate of the specialities of the Tamil language, with particular reference to its 'Ilakkana' and 'Illakkiya' (grammar and literature)." Authorities should be quoted wherever possible.

2. All students who have graduated from the Presidency College are eligible for the prize provided that (1) they were students of the senior department of the College of at least two years' standing and (2) at the time fixed for the competition, they are graduates of not more than five years' standing.

3. The essays should be forwarded to the Principal not later than August 31st, 1913.

4. Each essay should be accompanied by a certificate to the effect that it has been written without help from any person, and a list of books referred to.

Madras Medical College

DR. RAMA RAO, Assistant Professor of Anatomy in the Medical College Madras, delivered a fine, instructive and interesting address in the Association at the above college on the 28th August. The audience consisted of all the students of the college and certain of the Assistant Surgeons. Lt. Col. Molesworth presided and Lt. Col. Giffard, the Principal, was kind enough to favour the association with his gracious presence. The Meeting was uncommonly well attended.

Madras Sanskrit College

THE ANNUAL REPORT OF THE MADRAS SANSKRIT COLLEGE and Swaminatha Sastrial Vedanta Patasala for 1911-1912 gives an account of the successful working of the institution during the year under review. Eleven students completed their five years' course in March 1912. They are qualified to appear for the highest Pandit examinations of Travancore and Mysore and would be fit for admission to the Siromani Examination of the Madras University after improving their knowledge of English. The permanent funds of the institution amount to Rs. 68,450 and the Government has been pleased to continue the grant of Rs. 1,000. The College has been approved of the Syndicate of the Madras University as an institution duly qualified to provide efficient instruction for the Vedic and Vedantic groups of the Siromani course. At the commencement of the year there were 21 students on the roll (11 senior and 10 junior). 10 junior students were admitted during the course of the year bringing the total to 31 (23 Smarthas, 6 Vaishnavites and 2 Madhwas). The Library continues to be open to the public on all days, including holidays from 7 A.M. to 5 P.M. The Committee record the heavy loss the College sustained during the year by the untimely death of the late Hon'ble Mr. V. Krishnaswamy Iyer C.S.I. who was the founder and patron.

Madras Christian College Literary Society

A Meeting of the Society was held at the Madras Christian College, when Mr. J. C. Rollo principal, Pachaiyappa's College delivered the inaugural Address on "Some Nature poetry before Wordsworth." The Rev. E. M. Macphail presided.

Mr. Rollo, in the course of his interesting lecture observed that it was absurd to say that Wordsworth found something new in nature in relation to poetry. The beauty of nature, the sublimity of nature, and the harmony of nature were all implied in what many other poets had written before Wordsworth. The genuine love of nature was based on the feeling that they were all one with nature—Wordsworth was full of the idea of personal love for nature. The favourite theme of Wordsworth was the influence of nature on man of which he had always a characteristic interpretation to give. He was full of the "that harmony with nature was a matter of the soul. Nature was to him a living thing which communicated its thoughts in direct impulses to man through the medium of natural objects Wordsworth was the first poet to be conclusively animated by the above idea. Another aspect of nature poetry in Wordsworth was the double idea that as nature passed soon, so all must pass and that in nature spring returned next year and the sun set one day to return the next day while for man there was no return. Chaucer was animated by a desire to note the changes of seasons and their respective influence on man. His summer feeling was expressed in many fine passages. Sir Philip Sydney was another poet longing for May mornings in summer. Spenser had a kind of love for nature and gave fine descriptions of nature. For him all beautiful scenes were valued as the back ground of man. He delighted to be in smooth pastoral places because men could be busy there and gather there after a busy day's work. Keats was another poet who wrote some verses on summer happiness. Milton, inspired purely by the Christian spirit set at naught the sad harmony in mortality and applied that very sunset and sunrise metaphor of Catullus to bring home his confident belief in the immortality of the soul. Shakespeare had also treated of nature in several wellknown plays and his description of nature clearly showed the depth of his observation of nature.

The lecturer then quoted a few verses from Crabbe and Burns to show the different kinds of nature poetry. Mr. Macphail, in winding up the proceedings of the evening said that they all should be indebted to Mr. Rollo for the able and instructive lecture he delivered. He also said that the Literary Society should live up to its name and specialise along literary lines leaving subjects of history to the History Society and questions of debate to the Debating Society of the College.

Pachaiyappa's College Literary Association

The inaugural address of the Society was delivered at the Pachaiyappa's Hall, by Mr. E. E. Corley, M.A., of the Christian College, when Mr. J. C. Rollo, Principal of the Pachaiyappa's College presided.

Mr. Corley in the course of his lecture on "Literature and action" said that he disapproved of the manner in which men of

action without just reason disregarded literature. Literature played a very important part in handing over to posterity accounts of deeds and lives of great men Of the two great men Agamemnon and Homer, the latter was, in his opinion superior to the former. Agamemnon bore the brunt of battles and Homer depicted to the world Agamemnon's achievements. He (the speaker) would attach the greatest importance to religious writing such as that of the Bible and the Koran. He referred to the ancient Indian ideals where literature played a great part.

Madras Law College Moot Club

A meeting of the Law College Moot Club was held on Saturday 24th August in the class room of the College when the Hon'ble Mr. Justice P. R. Sundara Iyer delivered the inaugural address. Dr. Swaminathan, the acting Principal of the College and other members of the staff were present.

The proceedings began with one of the students of the B.L. class concluding the plaintiff's case in Derry *versus* Peek.

The Hon'ble Mr. Justice P. R. Sundara Iyer in the course of his interesting lecture, said:—

Law is a responsible profession where the security and safety of property, life and even liberty are entrusted to lawyers and it is a solemn task entrusted to them. Most of you reading here will one day or other become Advocates in the metropolitan city or in some mofussil stations. It will not do for you to study the principles only from books. It will not be sufficient for an Advocate to see other people practising the profession. It is necessary that he himself must undergo the supervision of those who are skilled in the trade.

I am very glad that your Principal has taken pains to organise this club on a fresh basis. Probably you are aware that moots have been a special feature of the study of Law in other countries. In England every training for the profession of law began with moots. Moots are considered essential in America and in fact in all countries where advocacy is taught as a profession. It would indeed be strange if what is considered necessary in every other sphere of life should be neglected in the profession of law alone. These moots are to be of immense value to you.

Nizam's College Old Boys' Dinner

The Old Boys Dinner at the Nizam College came off on the 10th August. H. E. the Nawab Salar Jung Bahadur, the Prime Minister, in proposing the toast of H. H. the Nizam said. I consider it a proud privilege indeed to preside on this occasion, when we the Old Boys of H. H. the Nizam's College, have met to celebrate the birthday of our beloved Sovereign, and a still prouder privilege to be asked to give the toast of the evening. Only a year nas passed since His Highness assumed the reins of Government; but in that brief twelve months His Highness has shown a strength of character and power of application, combined with a firm determination to judge justly and deal fairly with all classes of his subjects, which augurs well for a great, prosperous and successful reign.

Mr. P. H. Sturge, the principal, in proposing the health of the Chairman, said:—

His Excellency is a very familiar figure among us. For many years he was a pupil in this school. It is very gratifying to us, members of this Association, that one Old Boy has been succeeded by another in the exalted post of Prime Minister of these Dominions and we heartily congratulate our Chairman on his recent elevation.

The following congratulatory message was sent to H. H. the Nizam:—

"The President and members of the Nizam College Old Boys' Association, assembled at their Annual Dinner, beg most respectfully to tender their heartfelt and loyal congratulations on the auspicious occasion of Your Highness's birthday."

Mahinda College Galle Ceylon

The Director of Public Instruction, Mr. J. Harward, M. A., presiding at the Prize Distribution in the course of his speech, made the following remarks, which will prove of interest to educationists in Ceylon: "During the last 9 years I have followed the fortunes of Mahinda College with some interest, and from the Reports of the Inspectors of my Department it dawned on me that the College was in charge of one who carried on the work with the view to educate. It may seem a commonplace thing to say this of a school, but in my experience of a good many schools, the object seems different. Some work for honour and glory, or the furtherance of some special cause, or possibly

for private profit, but here the guiding Principal regulated things with a view to educational effect on the minds of those spending their time within its walls. The history of education during the last 18 years in Ceylon shows considerable ground for taking a cheerful view of the progress of this country for the future. Some real and substantial progress has been made. As head of the Department of Public Instruction, I am in sympathy with the movement to provide this College with buildings worthy of the work of a great school. The kernel of the whole matter has been put before you by the Principal when he said that his ideal of education was not to teach boys out of books but by a happy influence with beautiful surroundings and a sympathetic staff. These simple truths were generally neglected in Ceylon some years ago. I commend the motto of this College, the meaning of which I understand is "*Be prompt and energetic and you will become good and learned.*"

His Excellency Sir George Clarke at the Gujrat College, Ahmedabad

The Governor of Bombay laid the foundation stone of the Emperor George V Hall and Sir George Clarke Library in connection with the Guzrat College. His Excellency delivered an interesting speech in the course of which he observed that when he arrived in Bombay he found that the resources of the College were somewhat slender and the demand for a great development of primary education was just beginning, to which demand Government responded by opening more than 2,400 primary schools since His Excellency assumed office. He believed that the institution of a special class of rural schools intended to meet the needs of the agricultural population would enable them effectually and more rapidly than hitherto to make head-way against the mass of illiteracy which tends to impede the general progress of India.

His Excellency declared that the multiplication of universities was certain to be among the developments of education in the future and that far-reaching affiliation was destructive of the true university spirit. There was already a scope for universities at Bombay and at Poona and that before long there would be a University at Ahmedabad.

His Excellency proceeded to say that there would be a most notable increase of science teaching, and commerce would have a college of its own. The university courses had been systematized and in place of diffusion over many subjects of which only a smattering could be obtained there would be concentration which should lead to greater thoroughness. Moreover the special grants of the Government of India would enable the University of Bombay to make a fresh start in direction hitherto neglected.

In conclusion, His Excellency said, I thank you all for your warm welcome, the third, which, like its predecessors, will be a treasured memory as long as I live. Lady Clarke and I will deeply feel our separation from the fascinating land which we have striven to serve and from the kindly people. May all that is best in national advancement be yours in the years to come, a fuller and higher life, the gradual breaking down of social and communal barriers, wholehearted co-operation among yourselves and with Government for the common good, the creation here and elsewhere of a band of real students who will work with selfless patriotism for the moral and material welfare of India. These are the best wishes that we can leave with you when the day of parting arrives.

Rajkumar College Rajkote

The annual prize-distribution gathering of the Rajkumar College was held on the 29th ultimo, in the Bhavsinhji Hall, under the presidentship of Mr. J. Sladen, I. C. S., Agent to the Governor in Kathiawar. The prize-distribution being held on the occasion of the Old Boys' Gathering, proved a very attractive function. Among the ruling chiefs who took part in the gathering, the principal were H. H. the Maharaoshri of Cutch, H. H. the Rajashaeb of Dhrangadhra, H. H. the Nawab Saheb of Radhanpur, H. H, the Rajsaheb of Wankaner, H. H. the Thakore Saheb of Rajkot, the Durbar Saheb of Vadia, the Thakore Sahebs of Chuda and Lathi, Darbarshri Vajsurvala, Durbarshri Dipsinhji of Gavridad and Durbarshri Ramvala of Bagasara. Besides, several Kumars and native officers from outside arrived to attend the gathering.

Agra College

On the 24th ult, F. T. Brooks Esq., who has recently joined the Arya Samaj gave a very interesting lecture on "the building up of

character" in the College hall. Prof. W. S. Thatcher B. A. was in the chair. Amongst those who were present were Prof. J. B. Raja M. A. Prof. Ghisoo Lal M. A., and Prof Chandra Puri M. A.

Prof. W. S. Thatcher has opened an Economics Society in the College. One paper on some Economics subject will be read every Monday evening. The Professor himself is the president of the society with Mr. Keshava Ramchandra B. A. as Vice-president and Mr. Gopi Nath Kangru B. A. as Secretary.



LECTURE ON AGRICULTURE

BY DR. HAROLD MANN.

Dr. Mann, the Principal of the Poona Agricultural College, delivered a very interesting lecture on Agriculture before the students of the Baroda College. The lecture said among other things that famines were more frequent in England than they were in India; but by the introduction of new methods and improvements, England was able to stand to-day at a much higher level.

After the revolution the upper class people and noblemen went to live in countries, leaving the cities and began to look after their own estates. They were of the idea that the land must remain absolutely fallow one year in every four years. They were following the conviction and the yield at the time was much lower.

At this time some farmers were brought from Holland and they introduced the rotation system. They began to raise fodder crops instead of keeping the land fallow every fourth year and by the introduction of Holland people a new race was created whose ambition was to get larger returns from the land, They went on increasing with the increasing amount of produce, and as result of this, we see that English agriculture has attained a very high level. With the increase of fodder supply the English farmers have been able to create an improved stock which stands a model to the whole world at present.

In India, the average yield of wheat is 11 bushels per acre while in England it is 30 bushels. This is nearly three times the produce of India.

America was worse a few years back in agriculture but now it has been raised to the level of highly developed countries. Why? What has brought about these changes. This is due to their enthusiasm in introducing new crops and methods of cultivation. There are men and commissioners travelling in other countries to learn about new crops, methods of cultivation and implements, etc. from all parts of the globe and make the best of it.

In Australia, land which ten years ago was considered a desert is now being cultivated with good advantage.

Similarly a great portion of America which was called the great American desert is now transformed into nice arable lands. These changes have been brought about by the introduction of new methods, improved methods based on the application of scientific knowledge.

In the above case the principle of dry-farming is strictly followed. Dry farming meant to conserve the moisture in the soil and to raise the crops by the help of this soil moisture.

Here in Gujrat this principle if properly applied may be of great advantage and the risk of failure of crops may be minimised to some extent.

In conclusion the lecturer said: My great point in India is to find out from the people —the so-called ignorant mass but really possessing a good practical knowledge— their difficulties study them and then try to remove them if possible. As for example cotton of one tract may be inferior to that of the adjoining tract. Here we should first be throughly acquainted with the nature of cultivation and other circumstances and then try to introduce possible improvements. For this purpose we should go round villages mix and talk with the cultivators with, an air of equality and without at all feeling it derogatory in any way to learn their difficulties.

Malaria classes Lahore

The Punjab Government has sanctioned Rs. 2,500 towards purchasing an apparatus for the Malaria classes to be conducted by Major Perry, Chief Malaria Medical Officer. The classes will commence in September and be attended by the Assistant and Sub-Assistant Surgeons now on plague duty.

OTHER EDUCATIONAL ADVANCES

The Hindu University.

The total amount collected up to 31st August 1912, is Rs. 9,91, 948 15 as. 7 pies.

Donations Paid

His Highness the Maharaja Holkar, who subscribed five lakhs of rupees towards the Hindu University fund, has paid three lakhs while the balance is to be paid two months hence. His Highness the Maharana of Udaipur has paid one lakh and a half, and Babu Moti Chand has paid his promised lakh. These amounts bring the total of the actual realisations, in round figures, to fourteen lakhs of rupees. Doubtless the next list of paid up subscriptions that will be published probably in a couple of days by the honorary secretary will show another lakh or thereabouts as having been paid by other contributors.

One Lakh from Kotah

A deputation consisting of Rai Bahadur Pandit Sukhdeoprassad C. I. E.,and Hon'ble Pandit Madan Malaviya arrived at Kotah (Rajputana) on Sunday the 1st instant and waited upon His Highness Moharao Sir Umdisinhji Bahadur G. C. S. I. when His Highness was pleased to sanction a donation of one lakh of rupees to the Hindu University. The amount was paid on the 3rd.

A nice suggestion

As a corollary to the decision that the Benares University to be will not be allowed to affiliate colleges outside that city it must follow that all institutions, both colleges and schools, at Benares itself should be affiliated to the Benares University and not to the Allahabad University. This will be but fair and the Government will, we trust, says the Leader, recognise the justice of the position taken up. Foremost of the Benares institutions is Queen's College and then there are the Sanskrit College, Hewett Kshatriya School and Harishchandra School. The case of the Jay Narayan School and the London Mission School stands upon a different footing, and we do not suppose either that the managers of those schools will agree, or the authorities of the Benares University will ask them to affiliate themselves to it. But as regards the other institutions, what we have contended for will have to be allowed.

A Poona School of Music

An intersting gathering assembled at the bungalow of Mr. Kaluram Bhau Mansaram on 29th August to witness the prize-giving to the students of the Poona Gayan Samaj, a society which has for its object the promotion of Indian music. There were a number of performances on Indian instruments as well as vocal.

The report of the Samaj, read by Mr. B. T. Sahasrabudhi, stated that the Samaj had given gratuitous instruction in music to 1,200 children without interfering with their school studies. The ideals of the Samaj is to popularize singing so as to bring it within the reach of every Indian home. It also undertakes the publication of Sanskrit musical literature and has recently completed the publication of the "Sangit Sar," an authoritative work on ancient Hindu music.

Sir Richard Lamb, who presided, addressing those present, said that the objects which the Samaj had in view were admirable. In these days of strenuous education it was well that there should be a society which recognises that the education of children is incomplete if the aesthetic side of their nature is neglected. It was well also that endeavour should be made to rescue music and put it in its right place as a thing which can and should be cultivated and practised by men and women in their own homes for their own pleasure and amusement.

NATIONAL MEDICAL COLLEGE OF INDIA.

The following students have passed their Examination as per details below :—

Final. M C. P. S. and L. M. S.—Surendra Nath Ghosh. Final L. M. S. 1. T. K. Harihar Iyer. 2. Sarat K. Battavayal. 3. Miss Mallika Nayak. 4. Shama Dass Banerji. 5. Amarendra Nath Ghoswami. 6. Bhagavan Waman Khista. 7. Narain Ch. Mittra. 8. Ashu Tosh Mitry. 9. Daga Moy Roy. 10. Hem Chandra Banik Dass. 11. Radhika Mohan Roy. 12 Ananta Deb Mukerji. 13. P. R. Lale. 14. K. L. Nakhiri. 15. D. R. Hyullalker. 16. M. Hari Kawtikar. 17. I. Iagm halli Rao Naidu. 18. B. S. Khullali. 19. Baidya Nath Mukerji. 20. Ashutosh Samanta. 21. Chuni Lal Memshi. Junior M. C. P. S.—1. Narendra B. Bhattacharji. 2. Bejoy Sankar Mukerji. 3. Surendra Nath Chakraburty. 4. Puli U. B. Chatte. Junior L. M. S.—1. T. Raman kutty Pishardi. 2. Keshab Baliam Headgayar. 3. Sadasbeo Nilkanta Mohiril. 4. Rajendra Kumar Paul. 5. Surendra Nath Moitra. 6. Fanindra Nath Ghosh. 7. Nando Lal Verma. 8. Uxir Chand Nirola. 9. Dinesh Chandra Roy. 10. Hera Lall. 11. Tendulkar Shankar Raghemath. 12. Nolini Bhusan Neogi. 13. Surendra Nath Nandi. 14. B. Rajeswar Rao. 15. Balkrishna V. Kotivaskar. 16. Madhab Krishna Devasthale. 17. Peary Lal Verma. 18. Pabitra Kumar Roy. 19. Subal Chandra Shaha. 20. Anukul Chandra Bhattacharjee.



Gwalior Donation

A letter from the private secretary of the Maharajah Scindhia of Gwalior was read at a Court of Edinburgh University on July 23, announcing that His Highness had been pleased to make a donation of £400 in aid of a lectureship in military subjects in the University. The donation was accepted with thanks.

Gifts to Universities

After the offers of large sums to the University of London for a new site come Mrs. Lecky's bequest of landed property to endow a Chair of History at Trinity College, Dublin; Mr. Morison's munificent gifts to Balliol College, and Mr. C. B. Marlay's legacy of £80,000 and his art collections to the Fitzwilliam Museum at Cambridge. Princely though this last donation is, and ungrateful though it be to look such a gift horse in the mouth, we cannot help thinking that many Cambridge men will wish that some part of the funds could be diverted to other University purposes, such as the increase in the endowment of professorial chairs.

Scottish Universities

At a conference of representatives of the four University Courts, held on June 20, inclusive fees in medicine, applied science, and law were determined for suggestion to the Universities. Edinburgh University declined to take any part in fixing an inclusive fee for medicine, on the ground of difficulties about extra-mural and clinical classes; but the fees in medicine suggested by the Conference were, for the degrees of M.B., Ch.B., ninety guineas for instruction other than clinical, and forty guineas for clinical courses. The fee suggested for the degree of B. Sc. in engineering was sixty guineas. Some of the Universities have already approved these suggestions. The Conference also considered various representations from the General Council of Glasgow University, suggesting modifications of its proposals, and resolved in every case to adhere to its original findings.

Carnegie Trust

The Carnegie Trust has issued its award of research fellowships, scholarships, and grants for the academic year 1912-13. Twenty six fellowships are awarded, of which ten go to Glasgow, eight to Edinburgh, four to St. Andrews, and four to Aberdeen. Of the thirty-four scolarships, Glasgow and Edinburgh receive eleven each, and St. Andrews and Aberdeen six each. Ten of the fellow-

ships and ten of the scholarships are awarded to women. One of the scholars is a Chinese graduate of Edinburgh. Seventy-four applicants receive grants in aid of research, and the total sum expended for the year is upwards of £9,800.

Queen's University Belfast

Queen's University, Belfast, held its annual graduates ceremony on July 18, when the Chancellor, the Earl of Shaftesbury, who presided, gave a very satisfactory account of the work and progress of the University, which, he said, united among its students all classes and all the chief creeds of the North of Ireland in peace and harmony. He referred to recent benefactions by which the University had profited, amongst them a gift of £25,000 from the Misses Riddel of Belfast, for the erection of a residence for women students, one of £1,200 from Mrs. Reid Harwood (a former student of Queen's College) for the foundation of a scholarship in modern languages, and a bequest of £3,000 from the widow of the late Dr. John Magrath for a clinical scholarship. One important matter effected during the past year was a junction between the University and two outside institutions, the Belfast Municipal Technical Institute and the Royal College of Science, Dublin, whereby candidates for the degree of B.Sc. would be able to avail themselves of the instruction and apparatus in engineering in the former, while students of of agriculture could obtain theoretical and practical training in the latter.

The new University at British Columbia

Much interest is being taken just at present in the preparations for the new University of British Columbia, which, according to the Minister of Education, is to begin its work in 1913. Convocation has been summoned to meet at Victoria in August next, but the University is to be located on the mainland. Its home is to be Point Grey, the western residential suburb of Vancouver, and here it will occupy a magnificent site of many acres, situated on a slight eminence and overlooking the Gulf of Georgia. For situation, it will probably be unsurpassed, facing the healthful breezes from the Pacific on one side, and the most majestic mountain scenery on the other, while at its back lies the thriving industrial city of Vancouver, with her 150000. inhabitants. Generously endowed by the Government, the classes are to be free, so that British Columbia will possess a complete system of free education from the elementary schools to the University—something unique, even in these days of rapid educational advance.

WISCONSIN UNIVERSITY, U. S. A.

Eduard Prokosch PH. D (Berlin), Prof. of Comparative Philology and Romance Languages of the University of Wisconsin when delivering a series of lectures to the public on "Languages and History" (Third lecture : Indic Language) said that the original home of the Aryans according to almost all the philologists and archæologists was around the west and south coast of the Baltic Sea *i. e.* South of Scandinavian Peninsula, Denmark and Northern Germany ; and from this region the migrations took place. One of the earliest movements was towards the East in the Punjab and Kashmere where the Hindoos settled their abode after conquering the aboriginal races they met on their way. There they developed that mighty language which according to Sir William Jones "is the mother of all the languages." The development of the Sanskrit language began as early as 2000 B. C. He cited a considerable portion of Sanskrit from Nalopakhyana (नलोपाख्यान) and German Language and thus showed clearly the superiority of the Sanskrit literature in sweetness and melody to the European Languages.

According to Prof. Prokosch the caste system in our country did not originate in the varieties of occupation, but it originated in the color, as the Sanskrit word "Varna" means caste. When finishing his lecture he remarked that though the Hindoos lost their political power their Sanskrit literature and grammar could well nigh vie with any literature in the world at the present day.

H. K. RAKSHIT.

WHAT OUR STUDENTS ARE DOING ABROAD.

Indian Medical Service

The result of the competition for commissions in the Indian Medical Service, which was at held Royal Army Medical College and at the Examination Hall, Victoria Embankment, in July, has been announced. Only one Indian has been successful. The following are the names of the successful candidates, arranged in order of merit :

	Marks.
Wilfson, J D., M A, M B., Ch. B. Edin	3,718
Anderson, L A P., B. A., B. C., Camb. Univ. and St. George's Hosp.	3,519
Paton, W.C. M A, M B, Ch. B Edin	3,481
Hance, J.B. B A, M B, B C, M R C S. LRCP. Camb Univ. and Guy's Hosp.	3,389
Gordon, S., BA, BC, MRCS., LRCP., Camb, Univ. and London Hosp.	3,316
Thomson, G Y., M B, B. S. Lond, M R C S., L.R.C.P., Guy's Hosp.	3,274
Rowntree, H K, M B, B. S. Lond., L M S S A., Middlesex Hosp.	3,268
Eminson, B F., MB., B.S. Lond., Charing Cross Hosp.	3,216
Kennedy, A., B A., B C, M R C S., L R C P., Camb Univ. and Middlesex Hosp.	3,186
John, J C., B A., MB., B C., M R C S. L R C P, Camb Univ. and St. Bart's Hosp.	3,172
Ratnagar, S D., B A., L M. and S., L R C P and S. Edin., L.F.P. and S. (Glas' London Hosp.	3,157
McIxer, C., M R C S., L R C P., Univ. Coll. Hosp.	3,068

Successful Indian Candidates at London Univ. Exams.

FIRST EXAMINATION FOR MEDICAL DEGREES, July 1912 :—Mahmoud Abu Bakr Demerdash (University College), Jehangir Hormusji Oonvala (Grant Medl. College Bombay and University of Glasgow), Walter Murad Abdul Rahman (Univ. Coll.) Ahmad Shafeek (St. Thomas Hospital), Rustam Navroji Vakil (Univ. Coll).

SECOND EXAM. FOR MEDICAL DEGREES, July 1912 :—Mohamed Hamza Hassan (King's College), Sinnethamby Muttiah (London Hospital), Nirendra Mohan Sen-Gupta (Do).

B. SC. (ENGINEERING) 1912 : *Honours* (Class II)—James Muttiah Arunachalam. *Pass*—Sorab Dinshaw Bamjee (King's College), Sita Ram Chopra (King's College). Mohammad Fakhar-ud-din (do), Kundan Lal Loomba (Univ. Coll), Jeswant Sing Malik (do), Atma Ram (King's College) ; Apabhai Chaturbhai Patel [*External*] (Imperial College—City and Guilds College).

INTERMEDIATE ECONOMICS (*Special Exam.* 1912) :—Prasad Chandra Bandyopadhyay and Prafulla Kumar Chattopadhya (Lond. School of Economics).

Mr. Kasipati Ghosh son of Babu Annadaprosad Ghosh a known and respectable man of Ghosh family in Jaynagar 24-Perganas, started for America four years ago for the purpose of learning Engineering. We are glad to announce that has recently passed with honour in (B.E. Mech) Bachelor of Engineering Examination from the State University of Iowa, U. S. America.

Mr. Hemendra Kumar Sen Gupta M. A., P. R. S. Professor of Chemistry City College Calcutta proceeded to London on the 18th August 1912 to join the London University and qualify himself for the degree of D. Sc.

Mr. Sudhindra K. Haldar M. A. son of Dr. Hiralal Haldar M. A., Ph. D. Professor of Philosophy, City College Calcutta started for England on Thursday the 5th instant. He will join the London School of Economics and will try for the I. C. S. Exam.

Mr. S. C. Sen Gupta of Faridpore who had a successful career here as a Medical student has sailed for U. S. A. to study Dentistry.

Mr. Bhubananda Das, B. E. a student of C. E. College Sibpur is leaving for England to prosecute scientific studies with a Govt. of India State Technical Scholarship.

Out of the several applicants to the Arya Vysia Maha Sabha (Presidency circle Madras). for the foreign scholarship, Mr. B. Suryanarayana Chetty of Anantapur a Mathematics graduate from the Pachaivappa's College, has been selected. He will be proceeding to England next September to study for Civil Engineering. The student will get a scholarship of Rs. 80 a month from the Sabha.

Mr. V. K. Muthukrishnan, formerly of the Senior B. A. Class of the Christian College, left Madras last night for Bombay *enroute* to England. While in England, he wishes, it is stated, to prosecute his studies for the M. A. degree examination, and also qualify himself for the Bar. He is the son of the late Mr. V. Krishnaswami Modaliar, Retired Supervisor P. W. D.

The Educationist in Southern India—II

BY PROF. SESHADRI M. A., PACHAIYAPPA'S COLLEGE, MADRAS.

(*Continued from Page 107*)

In an article on the above subject we had occasion to point out a few months ago* that the educationist had been relegated in Southern India to a position of obscurity and neglect. Even in the educational world his influence was allowed to prevail only in a very slight degree and there was the lamentable sight of non educationists posing themselves as specialists even in matters affecting school and University life. The situation was surveyed in the last article with special reference to the Madras University but the remarks apply with equal force to almost every department of public life with which the educationist can presume to be connected.

It is by no means necessary to show at any greater length that the condition of the educationist does not reflect any credit either on his manly spirit of independence or on his anxiety to maintain the prestige of his vocation. We would only suggest that it is idle for the educationist to go on condemning the community for not according to him the status to which he is entitled by the nobility of his calling and the eminence of his achievements. The prospect of raising his dignity and importance rests entirely with himself and the measure of his success will depend on the efforts made by him to shake off this thraldom. He has only to realise a teaching which he has often probably placed before his students :

The fault, dear Brutus, is not in our stars,
But in ourselves that we are underlings.

It will be admitted at the outset that the educationist has to labour under two serious disabilities which check him perceptibly in his attempts to realise his purposes. There is at first the want of financial prosperity which prevents him from competing on equal terms with the lawyer who commands a lucrative practice and is able to find much easier the funds necessary for public life. Nor could he even boast of the circumstances necessary for the full play of independence. The favour of the educational department and the dignitaries who preside over the destinies of the University, who also generally happen to be officials, has often to be sought for at an expense of the spirit of independence. And he has often to give up all hopes of distinguishing himself even as a leader of educational movements.

The position of the educationist in private colleges is pitiable in one important aspect. His discretion is often fettered by his employers who do not generally happen to be overflowing with sympathy for the educationist. Colleges in Native States are still overridden by officialism ; the Missionary manager bent keenly on his evangelical work or on a cautious policy of peace and compromise with the powers that he offers no encouragement to such a spirit ; in colleges under Indian non-official management he is under the painful necessity of being subordinate to members of other Professions. As far as the Indian educationist is concerned there is no-where the existence of a position of independence in which he might enjoy the inestimable privilege working for the realisation of his own ideals and fighting for a recognition of his claims.

It is absurd to maintain that these disabilities can be removed in the near future to the entire satisfaction of the educationist. But it is easy to see the remedy is in his own hands. United action on the part of the educationists, an enthusiasm for raising their own status and an all absorbing anxiety to grasp the things in life which ought to come to them as a matter of right—a combination of these active forces must serve to speed the goal.

Our observations in the last article have been understood in some quarters as an attempt to present the docile and indifferent educationist as one eminently qualified for discharging grave responsibilities in public life. And we are sorry such a construction should have been put upon what was an effort to open the eyes of the educationist in Southern India to the condition to which he has fallen. The environment has indeed often expressed distinct signs of antipathy and in utter unwillingness to recognise even legitimate claims But the educationist is by no means free from blame when we come to regard his attitude of quietness and indifference which have deservedly brought him down to his present low position. We hope it is consistent with the highest ideals of one's own profession to dwell on the weaknesses of its members. The patience and want of ambition of the schoolmaster have been proverbial in almost all the countries of the world but the Indian educationist seems to be a being very hard to rival in meekness and docility. Beyond the work imposed by the routine of his class work, and that which is immediately related to it, he has enthusiasm for nothing else. Do publicists indulge in schemes of educational reforms and lay violent hands on his department,—he will be a passive spectator taking his chances in life. Does he feel keenly for any grievances to which he is subject,—he will appeal to other people or consent to be wronged. Is there any general disability clogging the wheels of the progress of his brethren, he shall not be troubled by it and be drawn into united action, but take care of the berth he holds himself. He will not make even the little sacrifices necessary for encouraging organizations intended to advance the prestige of his profession as there is no anxiety

* Vide page 107, No 2, May, 1912.

to realise the sacredness of the duty owed by every individual member. A dread of publicity and a mistaken sense of modesty are other influences contributing to a quietism of the most baneful type. And the consequence is the present state of degradation.

We are sure it is not too much to plead for an introduction of the reformation in habits necessary for altering this mode of life. Without any desire to make much of small things we would maintain that this spirit must be manifest even in small details. Entering into the membership of social clubs with a view to gain recognition in society; the maintenance of the external dignity that out to be associated with at least those who have risen high up in their profession: a resolution to fight out the rights of the profession when they are assailed from other quarters, without being over-awed by material and official dignity—these would seem to be some of the steps necessary for such a consummation. Active and vigorous work in the cause of organizations like *The Teachers' Guild* and *The South India Teachers' Union* is no mean asset. The immediate programme can be mapped out with some clearness. There must be united action on the part of educationists to acquire for themselves all the positions of honour and responsibility that lie open before them; there must be a steady effort to free the educationist from the trammels of non-educationist authority and control in all educational institutions; and his voice must be made to predominate as far as possible at least in the councils of the educational world. As we have pointed out at the beginning it is possible for educationist to achieve valuable results in the direction by steady, organised and enthusiastic work. When occasions rise for changes in the personnel of the University,—Fellowships are contested; Syndicate memberships fall vacant and the University has the opportunity of representing itself in Legislative Councils, let the educationist be not only in evidence, but guard jealously the prestige of his profession working enthusiastically for the advancement of its members. The principle of the undesirability of non-educationist interference in the administration of institutions must be insisted upon. As the Government and the University have all along been anxious to render all possible help in the matter, it will not be a difficult task for the educationist to achieve the aim in the near future. In view of the ground that has already been allowed to be encroached upon by others, the educationist should even be justified in adopting an aggressive attitude to gain his proper position. But will the educationists in South India rise equal to the occasion? *(To be Continued).*

[N.B.—This article also appeared in the Madras Educational Review]

The Teaching of Science—II.

TEXT-BOOKS.

We know best, first, what we have learnt by native instinct; second, what we have learnt by experience of men and things; third, what we have learnt not in books, but by books—that is, by the reflexions that they suggest; fourth, last and lowest, what we have learnt in books or with masters.

LORD MORLEY on "Aphorisms."

It is plain, from what has been said before, that the text-book ought to play a far more subsidiary role than that usually assigned to it in Indian sience courses. Let there be no misunderstanding about this. It is not proposed to abolish text-books or to supplant them, in part or in whole, by other forms of teaching, so long as they are not called upon to perform the work of the teacher.

The functions of the text-book are complementary to those of the teacher in helping the student to interpret that which he observes in the laboratory. It is to be noted, as explained in the last article, that the essential ground-work of scientific knowledge can only be supplied by actual observation of the working of natural phenomena. It follows that a text-book which attempts to substitute for this a set of "cram-work" designed to answer likely questions in an examination, is not only wrong but pernicious and directly contrary to the spirit of science. It is a matter of the deepest regret that so many graduates in India, instead of devoting their time to the further acquisition of knowledge, prefer to waste it in writing books of this description. Happily there are signs that a new spirit is abroad and one of the most gratifying of these is the fact that research work, thanks to the efforts of a few pioneers, is now taking its place as a definite feature of the University curricula. It may be confidently asserted that there is absolutely no need for new elementary text-books of a descriptive nature, written in English. It is possible that some useful work might be done by translation into the vernacular for the use of primary schools but with these we are not at present concerned.

Our discussion lies not with books written for cramming purposes, which are obviously bad for the spread of true scientific education but with the proper functions of the legitimate text-book in its relation with the teacher. How shall these be deliminated?

I wish to state here with the utmost emphasis that the neglect of this very important point is the cause of a great measure of the ineffectiveness of scientific teaching in many of our colleges.

The most flagrant mistake made is that lectures are very often nothing but a literal repetition of a particular text-book. In the early medieval universities in Europe lecturing was naturally the only means of importing knowledge. But when printing was introduced and books became cheap and discoursive, the system of oral teaching previously in vogue became to some extent unnecessary. It is interesting to note that this duplication of the machinery of teaching became noticeable, and in some universities regulations were actually introduced prescribing the functions of the lecturer. Thus in the University of Paris a regulation was passed in 1452 forbidding lecturers to use questions or lectures which were not of their own composition or to have their lectures read by deputy.

As the sum of human knowledge increased the functions of the teacher became more clearly discernible as one whose duty it was to place it in an assimilated form before the student; to teach the latter to select that which is fruitful and essential from the huge undigested masses of accumulated knowledge.

In the study of the liberal arts this remains today as the chief business of the lecturer because the raw material is represented almost entirely by printed books. The masses of written learning are interpreted through the spoken word. The traditional method of teaching in India is of this kind inasmuch as learning has been drawn largely from sacred books which are the ultimate authority in matters of historical belief.

In science, again, the conditions are entirely different. What in others branches of learning is the function of the teacher is largely performed here by text-books, namely, selection of those facts from the data available which are suitable to the illustration of the guiding principles of the particular science under study.

It is an extremely bad method of teaching science to elevate the text-book, as is so often done in India, to the dignity of the sacred writings. The first duty of a teacher of science in India is to eradicate, as far as possible, the tendency of students to learn things by rote from the text-book. If this habit is bad in other branches of learning, it is simply fatal in science.

Nothing is better calculated to encourage it and to ruin their chances of mental development in a scientific direction than the practice of repeating the text-book before classes. A little consideration will show how seriously it may demoralise study among students. It encourages the wholesale shirking of private effort. What happens in practice very often is that the student neglects to read his text-book because he can hear the same thing in lectures and takes no interest in lectures because it is all in the text-book. If it were merely a question of the choice of two evils it would be far better to abolish teachers and lectures altogether. A careful student can learn far more from the book, in the perusal of which he exerts his own powers of apprehension and judgment, than by listening to the same subject-matter in a lecture, a certain proportion of which he may not catch at all. Lectures should therefore be as far as possible original or at any rate of a supplimentary nature.

Finally, the text-book itself may, if interpreted too literally, lead to completely erroneous views vitiating the whole of a student's scientific career. A particularly instructive example of this is afforded by text-books of instruction in elementary chemistry. In practically all of these the method of teaching consists in the description of a few selected empirical facts, involving the study of certain simple reactions with their attendant strings of formulae and symbols. No attention is ever paid to the *energy changes* which take place. At the most, they are spoken of as "accompanying the chemical interaction, as subsidiary phenomena of so unimportant a character that their presence may be ignored.

But in the light of modern knowledge we know that exactly the reverse is true. The energy changes are the most important. It is they that *cause* the chemical change. Thus a hot body placed amid surroundings of a lower temperature will give up its heat to those surroundings until the temperature is equalised throughout. The hot body suffers a loss of energy. A chemical system always has a definite energy content and there is an exactly similar tendency for the energy to break down into another system of smaller energy content, with an accompanying degradation of the balnce into other forms of energy, heat, light,

and electricity. The actual process of breaking down is the real change, of which the outward and visible signs are the chemical phenomena observed.

It is clear, therefore, that when a text-book draws exclusive attention to the latter and represents the energy changes as subsidiary, it is inculcating erroneous views. The failure of text-books of chemisty to keep pace with the theoretical advances of the science has been tolerated partly on account of the difficulty in introducing thermodynamical reasoning to beginners and partly because a subsequent rectification of ideas is looked for when the student becomes more advanced in his studies.

I have cited this as an example, not by way of advocating any revolutionary change in the method of teaching chemisty, but only to illustrate how limited the function of the ordinary text-book is.

The gist of the matter is, that anything which encourages mechanical learning by heart from books should be strictly avoided, and it is the duty of the teacher to carry this precept into practice by adopting a completely detached attitude towards them. The method I have condemned develops only the memory, but it is not the function of science to do this, nor the reason why a large amount of the funds available for education are spent on expensive laboratories. Science has a far higher purpose, to develop the reasoning powers of man and awaken the creative faculty of the mind.

Summing up, it is to be repeated that the most real and durable form of scientific knowledge is that which the student acquires by direct observation in the laboratory. The role of the teacher, while directive, should not consist in the assumption of an authority likely to impair the student's direct perception of natural things as the final authority upon which all his scientific reasoning is based. And least of all should the text-book do so.

The teacher inculcates the living vital principles of scientific investigation into the mind of the student, shows him how to make use of the vast stores of dead printed matter as raw material for the production of new things in the all-dissolving reproductive crucible of the mind.

(To be Continued).

LUCKNOW. P. S. MACMAHON.

Evolution—natural and spiritual.—II

(Continued from No. 1 August)

We can see from the above short review that Herschell, Laplace, Lamarck, and Darwin have discussed the theory of Evolution only as it affects particular portions of the Universe; none of them has discussed the doctrine of evolution as a whole and the evolution of the Universe itself. Darwin, for instance, has discussed it so far as it applies to the animal world; but he has not said any thing about the life itself and its origin. He has not said, for instance, as to whether life is a product of Evolution. On the other hand, he has said somewhere that he would not be at all astonished if it was said to him that God has introduced 'life' at a particular point of time into this dead Universe. He has only attempted to show how one small drop of life being given, this huge system of the animal world, can be constructed out of it.

It was Herbert Spencer who for the first time saw the applicability of the law of Evolution to the entire Universe, physical and spiritual. According to him, all things in this universe, be they material or ideal, are governed by the same law of evolution. Life from matter and mind from life this is the process of evolution; no interference from God is necessary in this process—all the actions of nature are governed by purely mechanical laws.

Herbert Spencer defines Evolution as a transition of a thing from its homogeneous state to the heterogeneous. This whole universe was in the beginning in an indefinite nebulous condition. But the condition of homogeneity is a condition of unstable equilibrium - it attempts to become more definite and more heterogeneous. It is thus that the homogeneous nebula has transformed itself into more definite and heterogeneous planets and stars.

Herbert Spencer, in his 'Principles of Biology' has tried to trace the evolution of life from matter. In his view, life is only a specialisation of matter. There is no separate entity called 'life'. It is only a function of matter under certain given circumstances. Life has thus been defined by him as "the continuous adjustment of internal relations to external relations,"—and the want of this adjustment or adaptation is what we call

'death.' In his 'Principles of Psychology', the author shows, how our feelings and ideas evolve out of our nervous actions. The human mind or soul is but another aspect of the nervous actions,—thus human soul is identical with human life in a higher state of evolution. In the lowest forms of living things, the adaptation of internal relations to external relations is very indefinite and short-lived. The yeast plant among the vegetables and Gregarina amongst the animals are of this order—they live so long as they are kept within the objects in which they are born, they die as soon as they are brought into contact with foreign objects. The progress to life of higher and higher kinds essentially consists in a continual improvement of the adaptation between organic processes and processes which environ the organism. Gradually when this adaptation or harmony becomes definite and permanent, mind is evolved. Thus the difference between life and mind is merely a difference of degree and not a difference of things—they are governed by the same laws, they are merely the two aspects of the same thing.

In his 'Principles of Ethics' and 'Principles of Sociology,' the author has attempted to trace the Evolution of the most civilised social human mind, from the lowest forms of savage mind. Moral and social evolutions are also governed by the same mechanical laws. Our conscience and moral power are purely the products of Evolution. True it is, that there is a good deal of difference between our conscience and the conscience of a savage. The savage, in the days of yore, made certain laws for the government of his conduct in order that he might come out victorious in the great strife for existence: in course of time, the more beneficial of these laws obtained an amount of permanency—those laws alone are retained that are found to be beneficial to the society and the other laws fall into disuse, in course of time. The observance of the beneficial laws produces some nervous changes on the human organism, and it is these nervous changes that are now creating, according to the 'Law of Heredity,' the moral laws in the mind of the civilized man. Consequently, those ethical laws and social institutions, which we regard as the creations of God, are, in fact, not created objects at all—they are in reality only products of a long and continuous process of Evolution. This ethical evolution like the other evolutions is amenable to the mechanical laws. Consequently, in Spencer's opinion, there is no such thing as creation in this world; all things are products of Evolution—this whole universe, physical and spiritual, in short, has evolved out of that homogeneous, indefinite and primeval nebulous substance.

We have given above a short summary of mechanical Evolution. We will now proceed to test it critically. We have stated above that the Sankhya Philosophy and the Spencrian Philosophy cover the whole ground of Evolution—the Evolution of the universe as a whole;— so for convenience of discussion, we will confine our criticism only to these two doctrines.

1. In the Sankhya view, Prakriti or matter is the original and only material of this universe—and it is evolved for the enjoyment and realisation of the conscious Subject (Purusha) which is merely the observer (द्रष्टा) and enjoyer (भोक्ता)—without qualifications and having no causality of its own: Now, our question is, who employs and guides the unconscious force of Nature? To our question, Sankhya's reply is that it is the nature of the Prakriti to evolve itself (प्रकृतेः स्वभावः). But this reply is hardly satisfactory. It assumes what it is going to prove—hence it involves the logical fallacy of petitio principii. To say that a thing is and because it *is* so, may be a good form of dogmatic casuistry but it proves nothing.

2. The Sankhyas assume again, that the universe has evolved itself out of the contact of Prakriti and Purusha—just as a child is born out of the intercourse of a man and a woman. But in that case, how can we say that the Purusha is merely an observer and an enjoyer? We have seen that the universe cannot evolve out of Prakriti—the presence, at least, of the Purusha is necessary. Thus, to speak in the words of Mill, we cannot regard Prakriti as the 'unconditional antecedent' of this world—and hence, it would be obviously improper to leave out the Purusha in specifying the true cause of this universe.

3. According to both Sankhya and Spencer, the primeval material of this universe (which Spencer calls Nebula) was in a homogeneous condition. By homogeneity we mean, a certain condition in which certain forces have come together and harmonised in such a

manner that none of these forces can assert its predominance over the other—in short, in coming together, they have neutralised each other. Consequently, in order that such a neutral condition may be broken up into distinct and component forces, some external interference is absolutely necessary—some force or power from the outside that would come in and break the spell, as it were. A state of homogeneity is a state of pure inertia (full of तम: which has been translated as inanity), and though such a condition is a receptacle of a large amount of energy, still it can never originate or initiate any change. We may call it the potential energy ; but in order that the potential energy may be turned into kinetic or dynamic, a second force is necessary. Thus, the Sankhya and Spencerian views can never explain the origin or the beginning of this universe. Dr. Carpenter has explained this very clearly is his 'Nature and Man' and we need not offer any apology for quoting him 'in extenso'. After discussing mechanical evolution he says, 'hence it is obvious that however remote that point to which we trace in thought the history of our universe, we are still confronted with the impossibility of accounting by physical causation for its commencement.'

4. Spencer says that the whole Universe has evolved out of Nebulous matter—he also admits that no absolutely new thing can ever come into existence. Consequently, he must have to admit that the germs of life, mind and soul, were present from the very beginning in the nebulous mass. If we say that consciousness comes out of matter we will be bound to concede that there is consciousness in matter. (of course, this consciousness may exist only in a potential state.) Now, we can see at every moment of our existence that it is mind or consciousness that is guiding and controlling matter, so much so, that it would have been utterly impossible for us to have any perception or conception of matters without the existence of a conscious mind. Thus, would it not be a gross violation of the fundamental rules of Psychology, if we are to say that mind springs out of matter? Prof. Green has very pertinently observed that it would be putting the cart before the horse. Dr. Ward, in his 'Naturalism and Agnosticism,' has rightly observed that we would contravene the 'Law of Uniformity of Nature' if we are to say that the lowest animals who presumably have life, have no mind, seeing that in the higher animals life and mind always co-exist.

5. Looked at from the side of matter—it seems impossible that life should spring out of matter, and mind from life. Many attempts have been made, but up till now, no amount of chemical research and experiment has been able to derive life from dead matter. Spencer himself has not been able to say at what exact point and at what exact moment dead matter has turned into a living organism. Some scientists have come to the conclusion that, to start with, there was no life in our earth and that the germ of life has been brought to it from some higher planet by a stray meteor flying through space. But then this is only putting the difficulty a little further back—this does not explain how life has originated.

6. Spencer admits that we cannot even conceive the existence and origin of this universe without the conception of an Absolute Power. But we would ask, that if this Absolute Power is but a blind mechanical force, how could it give rise to this beautiful world—full of orderly variety and intelligent combinations. There is a good deal of electrical force in the world but can this force be utilised without the guidance of an Intelligence? Consequently, it would be understood that if this Infinite force had no consciousness or selective power, this world could not have been created without the interference of a Second Power. (Spinoza will say that this transformation is due to Nature's own instinct—but Spencer cannot adopt this line of defence, because, according to him, instinct is the highest evolution of intelligence.)

We will be now able to appreciate the merits and defects of the doctrine of Natural Evolution from the foregoing review. That there is an important element of truth in the basis of this doctrine, we will admit. We will admit the Evolution of higher things from the lower strata of existence. We will also concede that man's physical organism is subject to these mechanical laws of evolution. But we have also seen that this theory is incapable of giving us a full and philosophical explanation of the world as a whole. Arguing from the point of view of science we have nothing to urge against this doctrine; but from the point of

view of philosophy, we are bound to say that the doctrine does not go far enough, and in fact, it is partial and incomplete. This theory, we have said before, cannot explain a beginning or initiation—it can only explain each one of the separate links of nature, but it can never explain the final or the last links in the chain. Another objection, which this doctrine is subject to, is, that it tries to explain the universe from the external or physical point of view; but a philosophical explanation must begin from the subjective standpoint. In short, though strictly scientific, it fails hopelessly as a system of Philosophy. We do not and cannot admit the existence of external objects as existing out of all relations to conscious, perceiving subject. Any system of relations, as Prof. Green point out, implies a spiritual Principle which gives unity and meaning to this system of relations. Thus, if we want to give a complete and philosophical explanation of the origin and evolution of this world, we must begin with Consciousness,—We must have to search for the Final or Ultimate Cause in self-consciousness. The doctrine of spiritual Evolution starts from this standpoint and indeed, is based upon this view.

(To be Continued).

SITARAM BANERJEE, M.A. B.L.

Technical Instruction and its Relations to Education.

BY THE BISHOP OF LIMERICK

(*Continued from Page 304.*)

In the wonderful progress of the last century, two things stand out, and it would be hard to say which is the more marvellous, first the astonishing discoveries in almost every branch of physical science, and then the rapidity, and almost automatic ease, with which, no matter how high or abstruse the region to which they belonged, they passed into the service of men in their daily needs.

Pasteur, one of the greatest scientific men of that or any other time, used to say: "There is no greater charm for the investigator than to make new discoveries; but his pleasure is heightened when he sees that they have a direct application to practical life." And in his own contributions to science he must have felt the truth of his words. His amazing researches into the nature and functions of bacteria are not only most beautiful as pure science, but they led him to discover the cure of anthrax in cattle, and of the phylloxera in the vine, and every farmer in Ireland that sprays his potatoes, owes him the profit, and the bakers and brewers hardly know how much they owe him for their yeast.

Some of you will have heard of Father Mendel, the famous Augustinian friar of Austria. At any rate, anyone who takes an interest in agricultural progress must have heard of his methds, which bid fair to work a revolution in that industry, while at the same time they are shaking the very foundations of Darwin's throne. Father Mendel was fond of gardening, but carried it on in a scientific way. Growing sweetpeas he made some experiments on hybrids, and published the results in a scientific journal, where they remained buried alive until their author had passed away. Then they came to light quite accidentally, and now they are found to have given the key to the solution of some of the most obscure problems in biology, and by the insight which they give into the principles of heredity enable agriculturists to fix and reproduce certain valuable properties in animals, and to grow wheat and other grains on definite lines.

Then, again, within the last few weeks people have been stirred by a beautiful bit of scientific work by a professor in the Sorbonne in Paris. It has been known for a long time that sunlight exercises a curious influence on some disease germs, but it was not known how it did so. There was a suspicion that it was through what are called the ultra-violet rays, and this professor has demonstrated the truth of that theory, and again illustrating the services of pure science to our material needs, he has invented a lamp more wonderful than that of Aladdin. Immersed in water it immediately kills the bacilli of typhoid fever, and placed in a stream of water by its mere light purifies it from these germs. Good news that, in summer, for the Groody river.

It is all like a fairy tale, with this difference, that if we ask now, as we used when children, is it true? a grateful world answers us that it is.

I have mentioned these instances as being amongst the most striking applications of modern discovery to the utilities of life, and as showing how near science, in its highest flights, has been brought to our every-day affairs.

But anyone who has had to follow the progress of manufacture in recent times knows how entirely it depends, not only for its broad principles, but in the details of its daily processes, on the guidance of science. The days of mere empiricism

are over; we are now under the reign of science.

Germany was the first to realize this truth, and the result is that she has stolen a march on the older manufacturing nations, which are now startled and angered by her extraordinary progress. As an illustration I take the following from Mr. Haldane's book, *Education and Empire*:—

In Germany a very important branch of industry is the manufacture of explosives. The German is aware of the enormous extent to which he is dependent, in such branches of manufacture, on high science, and further that the best science cannot be brought by the private firm or company. Accordingly, the rival German explosive manufacturers several years ago combined to subscribe about £100,000, and to found close to Berlin what they call their *central stelle*. This establishment, which is maintained by subscription, at a cost of about £12,000 a year, is presided over by one of the most distinguished professors of chemistry in the university of that city, with a staff of highly-trained assistants. To it are referred, as they arise, the problems by which the subscribers in their individual work are confronted. By it is carried on a regular system of research in the field of production of explosives, the fruits of which are communicated to the subscribers."

Again in the same essay Mr. Haldane writes:—

"Anyone who visits Berlin to-day may see in the middle part of the city certain buildings. At first he will take them, from their size and appearance, to be factories, but if he enquires what industry the tall chimneys serve, he will be told that they belong not to factories at all, but to the laboratories of various university teachers. In the university of Berlin the professors of chemistry consist of three ordinary, seven extraordinary, and twelve private-docenten!" With us one man repeating the same lectures year by year, would do the work.

These are specimens of the ways which have led to German greatness.

English manufacturers, under the pressure of competition, have come to take a leaf out of their book, and to look to science to maintain their industrial supremacy. That is the explanation of the foundation in recent years of an university in each of the principal cities of England. Birmingham, Manchester, Leeds, Liverpool, Sheffield have now their universities, in which scientific research has been added to the old academic traditions of Oxford and Cambridge. And these universities are local in every sense; they have grown out of the industries of their cities, of which they are the very brains. I read recently a most interesting account of the university of Sheffield, in which one might fear that the idea of an university is in danger of being overlain by practical work. There is hardly any branch of the steel industry which it does not teach, practically as well as theoretically, and its students can get degrees as Bachelors, and Masters, and Doctors of Metallurgy. And what is very interesting for us here, under the wing of the university Technical Instruction has flourished exceedingly. I have seen it stated that for the training of boys in handicrafts there are in that city 18 centres in which 7,000 pupils are regularly instructed.

I have dwelt at perhaps inordinate length on the dependence of Technical Instruction on the universities for two reasons. One is to correct, if I may, a rather narrow and unenlightened view which prevails to some extent that an university serves merely the students in its halls, and that any class in the community that is not largely represented amongst them derives little benefit from it. There is no greater mistake. The university is the most national institution in any country. It is the fountain head from which we derive our teachers, and what is more, the intellectual energy which is the driving force of progress. In Germany, in England, in the United States of America, the universities are the ultimate source of all their prosperity, and if in Ireland agriculture or manufacture or trade is to prosper, we must look to the same source for success.

The second reason is to express the hope that our universities, now that they are fully organized while they remain true to their highest purposes, may have regard at the same time to the practical claims of the country upon them. The Irish people may be always trusted to honour and seek learning for its own sake. In worse times than these they never forgot the things of the mind. Yet I think that side by side with this devotion to the nobler aims of such institutions, our universities may be expected to remember their duties to the material interests of the country, and maintain schools of research which will study the special problems of our own industrial life, and give us in our technical institutes adequate knowledge for our needs, and teachers capable of imparting it.

May I say something about the connexion between this and other institutes of the same kind and the ordinary schools of the country?

There is a feeling abroad that the education given in our schools is too literary and has not adapted itself to the requirements of modern progress. To some extent I think this is true. But in the first place we have to remember that for the great mass of the pupils in these schools education cannot be carried far beyond the very elements of reading, writing and arithmetic. These constitute the minimum, and in most instances the maximum of mental equipment which we can provide for the great body of the unskilled workmen, and these subjects are, as far as they are anything, literary.

But when we advance a stage, and come to deal with those who will hold a better position, the tradesmen, the mechanics, the skilled workers in every branch, and all those who by ability and character may aspire to a higher place in life, then one must admit that the schools are wanting, if not in their courses of study, at least in the bent and direction to which these studies should incline.

But what is the explanation of this state of things? In my opinion it is that there has been no connecting link between the schools and the actual business of life, such as a system of Technical Instruction on a national scale supplies in every progressive country of our time.

The Technical Institute should be the university, if I may say so, for the primary schools, and its requirements should shape their studies, and direct the aims of the teachers and fill the thoughts and ambitions of the pupils.

What then have we a right to expect from the primary schools? Is it to try themselves to become a kind of half-technical institute, to combine a certain amount of literary study with practical instruction in various arts? In my opinion it would be a disastrous mistake, which would be as worthless for advancement in technical skill as it would be ruinous to education.

The business of the school, as far as we are concerned with it here, is to sharpen the child's wits, to develop its faculties, bodily and mental, to give it an alert, and active and inquisitive mind and at the same time to put it in command of what I may call the mechanism of education. A pupil coming to an institute such as this from a primary school ought to be able to read intelligently, to write a good hand, to work figures accurately and rapidly, and to have a fair grasp of elementary mathematics.

Such a pupil is ready to the hand of any teacher in technology.

But a kind of school of which we have heard something recently, they call it a Trade Preparatory school, is a mongrel institution, which could never educate, and on the side of technology, would teach as many wrong methods as would take a lifetime to unlearn.

I have never had any doubt as to the utter unwisdom of attempting to set up such institutions in Ireland, and I am very glad to find a confirmation of my view in a paper read last April, before the "Imperial Education Conference" in London by Mr. Robert Blair, Education Officer of the London County Council—a gentleman of whose competence in educational matters we had abundant evidence a few years ago in Ireland. Dealing with a reason which is sometimes given for opening these establishments, Mr. Blair writes:—

"Sometimes, the fact of a technical institute with its buildings, staff, and apparatus, established for the purpose of evening instruction, and standing unused in the daytime has been one of the governing factors in the establishment of such day-technical schools. It is not always wise to be governed by this factor. It is better to have some waste than to double it."

Then with regard to the actual working of one of these schools, in a town almost entirely given up to engineering, he quotes from a correspondent:—

"The school has been now in existence three or four years, and has been almost valueless as far as the placing of boys is concerned. I would specially emphasize the point that our local employers would very much prefer to have a general education given of such a type as to produce alert and independent boys."

I gather that this expresses Mr. Blair's own view, and it seems to me simple common sense.

In England these schools may not be so bad, for they are practically junior technical institutes with a little literary instruction added on; in Ireland where the whole idea seems to be to replace the ordinary school for children of a school age by them, the scheme is positively objectionable.

The primary school is, in my opinion, the legitimate preparation for technical study, a higher Primary school if you will, but still a genuine school without any attempt to confuse its methods by what is called practical work. Yet the school must have regard to the future occupations of its pupils, and in its curriculum and its whole tone turn their minds in that direction.

This view has been well and tersely put by the Commissioners of National Education in their Report for this year:—

"While it is obvious to all educationists that the primary school is not the place to teach the practice of agriculture or of any other great industry, it is at the same time manifest that there is much that can be introduced into the school training and curriculum to predispose the scholars for entering on the serious study of agriculture under favourable conditions when beyond the National school age."

With that statement one can well agree, yet when we come to read further on, in the same Report, the Commissioners' suggestions for giving it effect in the Higher Primary schools, which they desire to establish, the end and the means do not seem quite suited to one another.

They have asked, and complain rather bitterly that they have not got powers to encourage the study of Latin, French and German. Now these are delightful accomplishments, but it is not quite apparent how they would tend to predispose the scholars for entering on the serious study of agriculture, although at one time the cowboys in Kerry used to talk Latin.

If you add these subjects to the ordinary curriculum of a primary school, how then does it

differ from a true secondary school? If that is what the Commissioners really aim at, they should say so, and openly avow their purpose of taking over and subsidizing out of the publlc funds, Secondary as well as Primary Education, but they must not attempt to delude the country into the notion that these new institutions are Primary schools in any true sense, or will foster the spirit of work in the country.

I see that the Treasury has refused the funds for this course of ancient and modern languages in the National schools, and, although it goes against one's grain to admit it, for once I agree with the Treasury.

If I might venture on a counter proposal, I would suggest (1) a good course of Mathematics, (2) Drawing, and (3) on the condition that really competent teachers were available, Physics and Elementary Chemistry, with special reference in the country schools to agriculture, and there, too, I would add Botany.

These are subjects of a distinctly educational value, and would form a solid foundation on which, whether in town or country, the pupils' technical instruction might be raised.

But I fear that the suggestions of the Commissioners of National Education would have a very different effect, and would only fill the minds of the rising generation with gas and nonsense. The establishment of Technical Instruction may bring us better things, and amongst the services which it will render to the country will be, I expect, to set before the minds of our educational authorities, from the highest to the lowest, the claims of our material interests upon their consideration and support. In university and school alike we have lived too much in the clouds. There has been a great deal too much of the spirit of the Spanish Hidalgo, who could boast that an ancestor of his never did a stroke of work since the Ark landed on Ararat.

Technical Instruction, by allying work with science, will not only give it an enhanced money value, but invest it with an intellectual interest which will create for us an aristocracy of labour not less honourable, but more useful than that to which our Spanish friend belonged.

But if it is to succeed in its misson, I should say that a Technical Institute such as this must keep closely in touch with the actual commercial and industrial life of its locality. It is so everywhere. Technical Instruction is nothing if not practical. It draws its life from the occupations of the people around it and without their active interest it cannot succeed.

We do not want to train students for America or Australia, but for Ireland, for Limerick, and to show them how to do better work, and to earn a fuller livelihood at home.

And although we may think that a city like ours, which as a place of manufacture compares so badly with the great industrial centres of the world, offers little scope for enterprise, or Technical Instruction, which is its forerunner, yet I think that in our own way we have good grounds to look to the future with confidence. We have already some important manufactures. Our roller mills, and bacon factories, and tanneries, and milk-condensing factory are not insignificant concerns. There is more where they came from; and I am convinced that if the young men of Limerick come to look at the work which lies at their hands with interest, and earnestly to study its possibilities, to put their best energies into it, still larger enterprises than we have ever known will arise, and young Limerick-men whom, perhaps, this Institute will have set upon that honourable path, will make a place for themselves amongst our distinguished citizens. In that hope I have opened this Institute to-day, and I pray that God may bless it, and make it instrumental in promoting the prosperity and the good name of our city.

The Summer Session in the American Universities.

About forty years ago Harvard University led the way by first opening the summer session. The three months' summer vacation (from July to September) was considered to be spent all in vain; and the authorities of Harvard sought the means to utilize it or a part of it in the best possible manner. To their deliberations was due, to the growth of the summer school which was meant to give instructions mainly to School and College teachers and other regular students who might choose to take summer courses to shorten the period of their residence at College. Thus the aims of the summer session have been mainly two fold, (1) to offer higher educational opportunities to school teacher who can not join the regular College session; and (2) to create facilities for College students who may be willing to utilize a part of the vacation in systematic College work

The Harvard summer school lasts only for six weeks during which a student is required to concentrate his efforts to a particular branch of study. There are generally given five lectures in the week in a particular subject so that for the whole summer session there are only thirty lectures in the subject; but during this short period is given a course almost equivalent in depth and significance to a course given in the regular semester.

The importance of the summer session has been for long appreciated throughout the length and breadth of this country, and now we find summer sessions in almost all the universities of America. There may be slight differences in the matter of forms and details between different Universities; but all are guided by the same principle.

From six to eight weeks is the general term of the summer session. The one-course rule of Harvard is not, however, to be found in any other university As many as three or four courses can be taken with credit in probably all universities except Harvard. The summer session fees vary from $ 5 to $ 25 in different universities.

The summer school attracts not a few students. The number of students registered in the summer school is nearly 1,500 in the universities which have enrollments of about 5,000 during the regular year. Most of the summer school students are school teachers; and most of them again are women. It is really very interesting to find grown up men and women, sometimes or ages of forty and fifty, to attend the summer school by the side of young boys and girls and cheerfully perform their duties.

Very few of the regular College students join the summer school They would even prefer to work none during the regular session than take any College work during the summer. I asked some of my friends why they do not go to the summer school and everywhere I met with the reply, "I hate to take the summer school." Many of the students have reasons to be away from school during the summer; but there are some who would spend their whole time near the university and yet would not take the summer course even though it may require only one hour's attendance at school and less than one hour's study at home, and all that only for six weeks.

All summer schools have very nice arrangements for the instruction and entertainment of their students. Besides the regular class lectures numbers of lectures are given every day on topics of general character and popular interest by some of the best men of the universities. These have a very great influence in broadening the minds of the students who thus get the opportunity of hearing on varied topics that lie outside their particular fields of study. Opportunities are also given everywhere to observe stars and planets through the telescope in the observatory

For the diversion of the students the summer schools have arrangements for social gatherings, dances, opera and musical performances. Most of the students take part in these festivities and thus come in contact with the students and teachers from various parts of the country. The young and the old, the boys and the girls freely mix among themselves and have a delightful time in pleasant conversation and companionship. Besides all these, excursions are now and then made under experienced teacher guides to places of natural and historic interest. These lively trips cost a few dollars which the students bear with joy.

Apart from all the aforesaid advantages there is a more significant boon for the country and village school masters who come to you the summer schools in the universities. Here they are given opportunities for mixing with the great university professors, and for the free use of the big libraries. Their mental horizon is thus immensely broadened, and they go back to their respective duties at the end of the summer work with more light and enthusiasm. By their six weeks' stay at the summer school they make friends of professors who many be of great help to them in their future educational activities.

The universities have also, on the other hand, some indirect advantages from their summer sessions. It is undoubtedly true that the imparting of education is their noble duty. They are, nevertheless, desirous of wide fame as great institutes of public benefit, and they feel proved to have an ever-increasing number of students under their guidance and control. The summer session is a great advertisement in this respect. In the outgoing school teachers from the summer session the universities have great standard-bearers of their culture and reputation.

BEJOY KUMAR SARKAR.

ARTICLES AND CONTRIBUTIONS
SPECIALLY USEFUL TO STUDENTS

Age of Johnson and the Romantic Reaction—(1740-1798).

Signs of revolt are evident. The rigid rules of diction, versification and style dictated and enforced by Pope could not be passed with impunity for long. In time, rebellion broke out. The stronghold of Pope was stormed by Joseph Warton, Collins, Gray, Chatterton and their brethren. These latter had no predilection for cut-and-dried rules and formulæ of poetic diction. They wished to look on Nature as she is, and evinced a love for the older poetry and versification. Even when Pope was in the height of his

glory, these signs of revolt began to be apparent, for Thomson's *Seasons* was produced in 1730. But still Pope had his way. After him, Johnson found his position tottering. It was during his times that the invaders planted permanent footing. They fought against the conventionalism of the Popian school and tried to gain admittance into the novelties of Nature. The opportune forged publications of Macpherson's *Ossian* and of Chatterton's poems, which he passed off as fifteenth century productions of an unknown hand—all point to the same direction. Percy's *Reliques of Ancient English Poetry*, published in 1765 affords an undeniable proof of the fact that people's mind flew to ancient romances. Warton's *History of English Poetry*, though not useful by way of historical work, is an evidence of contemporary love of older literature. This anti-classic tendency is clearly manifested in some of the typical English works published between the years 1780 and 1790. "In the ninth decade of the century", says Mr. Wyatt, "the following works appeared:—

1781 : Crabbe's 'Library'.

1782 : Cowper's 'Table Talk'.

1783 : Blake's 'Poetical Sketches', Crabbe's 'Village', Ritson's 'Collection of English Songs'.

1785 : Cowper's 'Task' and 'John Gilpin'.

1786 : Burns' 'Poems'.

1787 : Blake's 'Songs of Innocence,' Burns's 'Songs' (in the Scots Musical Museum).

1789 : Bowles, 'Sonnets', White's 'Natural History of Selbourne'.

1790 : Ritson's 'Ancient Songs' ".

"Here 'eighteenth century poetry' can be seen in its death-agony. A mere examination of the titles of the above works shows what tremendous changes were going on underneath. The decade opens with the 'Library' and 'Table Talk'; It closes with the 'Sonnets' which inspired Coleridge, the 'Natural History of Selbourne' and 'Ancient Songs'. In Crable and Cowper the old order is ceasing, giving place to the new order in Cowper, Blake, and Burns. Crable was writing on in the old faded style; in the 'Library' he is indeed a 'Pope in worsted stockings', Pope without Pope's wit or 'musical finesse'. Even the 'Village' is quite devoid of any trace of the new naturalism; he is as severe in his aversion from romance as Don Quixote himself. Cowper cast the slough of the old style triumphantly; Blake and Burns had no touch of it, no frost upon the soul. Instead of the wooden things before produced there came a rush of pure lyrical poetry, almost as if there had been no eighteenth century and the Caroline lyrists were still writing; nothing had been heard in England like the songs of these two men since young Milton doffed his singing robes."*

The death-knell of classic poetry is sounded, and the flourish of trumpets, announcing the approach of the Romantics, is audible. Hence the present period has been called the Period of Romantic Reaction.

The principal feature of the period is the wonderful output of fiction-literature. I do not mean the quantity alone, but the quality as well. If drama was the greatest glory of the Elizabethan age, novels may be said to be the glory of the eighteenth century. It should not be taken, however, that this is a sudden outburst. It is only an evolution. It is true that the *novel* was never the strong point of the literature of any period before this; but it cannot be said that there were, for that matter, no novels before this. Sidney's 'Arcadia' and Lyly's 'Eupheus' once answered to the purposes of fiction. But the *novel*, as it is now, is a different thing, in substance from those. It is true, Defoe has been called the father of modern novel; still, strictly speaking, the construction of modern novels does not go exactly along the same line as Defoe's 'Robinson Crusoe' does. The *novel*, with good plots, consistently interwoven episodes—in short, *dramatic novel*—is the handiwork of Richardson, Fielding and Smollett. They observed the actual situations of human life, studied them, and painted realistic pictures. Richardson, however, did not like Fielding, and Fielding did not appreciate Richardson. But this need not give rise to any doubt as regards their worth. Probably, Fielding hated Richardson, on account of latter's mean antecedents, and Richardson only paid back. I should, however, like to dismiss the subject with emphasis on the scientific formula—"Like electricities repel each other."

Samuel Richardson[1] was the son of a Derbyshire carpenter. He was a profuse

* A. J. Wyatt.

1. 1689-17 1.

letter-writer and wrote amorous letters for the girls of his village. From this pursuit he became intimately acquainted with female hearts, which he so admirably analysed in his well-known novels.

Richardson was the remotest quarter, from which anything like the commodity, he produced, could be expected; and his first work was written when he was fifty one. In 1740, Richardson was asked by some book-sellers "to produce a manual of correspondence to serve as a model for illiterate people." He went about it and in order to give a moral tone to these letters, Richardson made them up in such a way as to represent a complete story. Thus arose the two volumes of *Pamela* in 1740. It is the story of a good servant, who was instrumental in converting his master from a miserable wretch to a loving husband. Every character tells his own story and thus the plot develops. The production does credit to the son of a carpenter, who had had no regular training in the art, and whose noviciate began when he was past half-a-century. In 1748 came his best work, *Clarissa* and five years later, his worst work *Sir Charles Grandison*. Richardson failed miserably in this last work, where he tried to paint the fashionable side of the society—a side wholly unrevealed to him. *Clarissa* is artfully constructed. The variety of characters, the naturalness of descriptions, and above all pathos, gives it a very high place among its peers.

Henry Fielding[2] was styled by Byron—"The prose Homer of human nature." Critics have compared Fielding with Richardson and have in all cases judged in favour of Fielding. Richardson was undoubtedly a dull, unpolished and slipshod writer. There was neither method nor system in what he wrote. Uncultured as he was, he had no idea of what constitutes the qualities of an auhthor. He wrote in his usual ragged style. Fielding, en the other hand was a scholarly gentleman. He thoroughly cultivated the art of story-telling. His abundant, healthy humour, and perfect plot—all came naturally to him. "To take him up after Richardson," says a critic, "is like emerging from a sick-room heated by stoves into an open lawn on a breezy day in May."

Says Mr. Saintsbury, "Fielding's first novel started as a deliberate burlesque of *Pamela*. Its hero is the brother of Richardson's heroine, and her trials are transferred to this Joseph." In short, *Joseph Andrews*, published in 1742, owes its origin to Richardson's 'Pamela'. Struck by a jarring note in 'Pamela,' Fielding created his *Joseph*, with a view to caricature Richardson's character. But as he advanced, he became interested in his creations and leaving out caricature, proceeded on seriously. *Jonathan Wild* (1743) is a stern satire and grim irony. But the best work of Fielding is *Tom Jones* dated 1749. The almost dramatic nature of the plot, its precision and proportion give it perfection. His *Amelia*, published in 1751, is decidedly inferior to its elders. An overwhelming amount of pathos ruined it.

Tobias Smollett[3] "was a novelist by taste and genius and a man of letters of all work by necessity."‡ In the capacity of a novelist he added to the literature *Roderick Random* (1748), *Peregrine Pickle* (1751) *Ferdinand, Count Fathom* (1753), *Humphry Clinker* (1771), and a few other works of less note. Smollett visited London in 1740 with *The Regicide*—a tragedy composed by himself. Unable to get a customer for his play and also finding it impossible to make two ends meet by writing, alone, he entered service as a ship's surgeon. He was an adventurous young man and his works are mostly autobiographical. They have no plot, worthy the name, They are mere narratives of adventures.

Lawrence Sterne[4] is well-known for his *Tristram Shandy* in nine volumes, the composition of which took him nearly seven years (1760 to '67), and *Sentimental Journey* (1768) in two volumes. These have no plan and arrangement and hence can very well be put out of the list of scientific novels. But they have merits, too. Sterne, with his abundant humour, is never tedious or stale. Humour and pathos are curiously mixed together in his works.

Oliver Goldsmith[5] is essentially the author of *The Vicar of Wakefield*. If he had written nothing else, still the name of Gold-

2. 1704-1754.

3. 1721-1771.

‡ George Saintsbury.

4. 1713-1768.

5. 1728-1774.

smith would have acquired perpetuity on account of this one single novel. It has been styled a "prose idyll" by Goethe, who was struck by the rustic simplicity of common life, which the work exhibited. The main thought of the story is moral. The vicar retains perfect equanimity through all the turns of fortune. The moral is clear and lies on the surface. As regards plot, there is not much skill in the construction of same. Many absurd situations appear. But these blemishes are made good by the simple, idyllic character of the novel, which never fails to interest the reader. The *Vicar* was published in 1766, though composed sometime before that date. Goldsmith was also the author of several bad dramas and some good poetry, which will be dealt with in their proper places.

One noticeable thing in connection with the history of the present period is the appearance of a large number of woman-novelists. There were Sarah Fielding[6], Clara Reeve[7], Francis Burney[8], and Anne Radcliffe[9]. Sarah Fielding was the sister of the novelist Fielding, and wrote *Adventures of David Simple* in 1744. Clara Reeve's *The Old English Baron* (1777) is a gothic story. Miss Burney's *Evalina* is a well-known work in English literature. The story is told in the form of letters. The authoress gives us a vivid description of society. Fashionable life is exhibited side by side with the common, vulgar life. At least in this, her first novel, she is simple and natural, though gradually this style changed, chiefly under the influence of Johnson. She never stooped to vulgarity in her style of writing. There is nothing in these which can accuse the authoress of indecency or indelicacy. *Evalina* is written in a dignified and noble tone. Mrs. Radcliffe's *Mysteries of Udolpho* is a sensational story in which there is much of supernatural element.

(To be Continued).

AJAX.

6. 1714—1768.
7. 1725—1803. 8. 1752—1840. 9. 1764—1823.

REVIEWS
AND MINOR NOTICES.

THE HISTORICITY OF JESUS by Shirley Jackson Case (University of Chicago Press. Chicago,) 6*s.* net.

The attempt of the volume before us will appear sacrilegeous to ultra-orthodox minds, who are sure to resent any attempt to analyse the object of their adoration, however much the attempt may result in triumph of the believers. But in this age of scientific investigations and researches generality of thinking men would like to have the thnig definitely settled, rather than take it for granted. *The Historicity of Jesus* is an attempt of this description. The author has tried herein to combat the views which have placed Jesus christ among the personages of the Myth. Jesus is a historical figure and a great man—this is the burthen of the book. It is scientific, yet popular, so that it may be read with profit by the learned and the mass. The life of Jesus christ is wholesome and instructive to the highest degree; and when we find that christ was a *man*, as much as any of us, his life becomes still more effective. He who writes such book may be said to a service to the humanity, and we recommend the present volume for perusal of all.

JUNIOR MAGENTISM AND ELECTRICITY by Jude and satterly (University Tutorial Press Ld. London), 2*s.* 6*d.*

This volume is uniform with the volume on Junior Heat by John Satterly noticed in these colums in April No 1. Though intended for the Cambridge Junior Local the book can very well be used by our Intermediate Students as a preliminarly reading. The chief usefulness is in the Calculations and Exercises which are copious.

DER STADTPFEIFER von. W. H. Richl heransgeben von. D. L Savory M. A.

This is another of Messrs Rivington's nice little books prepared according to the direct method. It forms one of series of Easy German Tex s published by Messrs Rivingtons. The annotations will be very useful to the students. We can very well recommend it for Beginners in German.

SCIENCE NOTES
AND OTHER INTERESTING ITEMS.

Travelling Free Libraries

Elsewhere in "Occasional Notes" our readers will find an account of the Travelling Free Libraries, Bombay organised by the Social Service League. The Secretary writes :— Our plan is that a box containing a set of about fifty volumes will be given in charge of a gentleman living in a chawl occupied by the people of the backward classes. This gentleman will be requested to issue these books to the people in the chawl free of any charge and also to try his best to persuade them to make their use. After two or three months a fresh set of books will be given to these people, the old set being removed to some other place. Thus, if we give five sets of books in a year to one chawl and start this work in twenty-five centres we must secure 125 sets or 6,250 volumes. To purchase this number of books would mean an expenditure of about Rs. 5000. But we shall not be required to spend this sum if those who have some Marathi or Gujrathi books with them will be ready to part with some and place them at our disposal for this purpose. Editors of newspapers and magazines and booksellers can help us a great deal in this matter. A man of good means can, without difficulty, give us a set of fifty or hundred books and even people of the middle class can very well spare a few volumes. We hope that all our countrymen will extend a helping hand to us in this undertaking of enlightening the masses that are groping in the dark.

Water shoes

A German has constructed a pair of water shoes, with the help of which he can walk on water. He has already crossed Lake Ammer in Bavaria, 12,000 feet wide, in two hours. The shoes are really two long narrow boxes of pine wood, squared off at the rear end and shaped like a bow of a boat in front. To preserve his balance the traveller grasps two upright posts. At the outer edge of each boat or shoe three small paddles, shaped like rudders are fastened. These move on hinges and are worked by a sliding mechanism that is operated by the traveller pushing his feet forward alternately somewhat like a boy learning to skate. He can travel rapidly and with safety on smooth water, although the apparatus is probably not fit for use in stormy weather. Those who have tested it assert that it does not tax the strength as much as rowing a moderately sized boat. The inventor uses his water shoes almost every day for crossing the lake and transporting his tools and a moderate amount of luggage.

Smokeless Fuel

For a smokeless fuel, Mr. S. O. Cowper Coles, the British metallurgist, takes anthracite containing 8 per cent. of volatile matter and bituminous coal containing 32 per cent., and forms a mixture having about 16 per cent with 7 per cent. of tar and 8 of pitch, this product is made into briquettes, which are heated in a retort to 500° C. for two hours.

Fabulous sums expended on gems

No city in the world, either ancient or modern, has ever owned such a fabulous collection of gems and works of art as New York can boast of to day, according to a special report just issued by the New York Customs House. The total value of registered jewels privately owned, is estimated at over £100,000,000 worth of priceless paintings, statuary, and other objects are to be found in the homes of the multimillionaires along Fifth-avenue and Riverside-drive. The vast hoard is steadily increasing too. During the month of July over £300,000 worth of diamonds and pearls arrived from Europe, and they have been pouring in at the rate of £6 000 000 to £8,000,000 worth a year for many years. Moreover, this estimate does not include the large numbers of smuggled gems that constantly find their way into the country through the same port. Since 1871 more that £150,000,000 worth of diamonds have been dug out of the blue clays of South Africa and fully one quater of these have been acquired by New Yorkers.

No Atmosphere

Without the atmosphere a great many peculiar phenomena would be observed which would seem extraordinary to us. The sun would rise in the morning into a sky and sink down to rest at night into a black-bed. No blueness of the heavens would be seen, no red sun gradually growing brighter buf one that would rise as a fiery orb and remain thus all day. There would be no twilight or daybreak for there would be nothing to diffuse

light Unless the sun shone directly on a thing, we could not see it. Thus our houses would have to be made of some transparent substance or else be artificially lighted in the day time. No soothing shades would appear in the landscape but everything would stand out boldly and clearly, every object casting dense black shadows that would render invisible any one entering them. No voice or music could be heard; no birds could fly; no clouds could be seen; no thunderstorms would be possible. This, according to an authority, is the exact condition of affairs in the moon.

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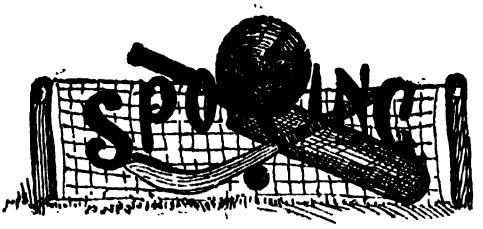
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CALCUTTA FOOTBALL.

Elliott Shield. The final of this Inter Collegiate competition was played off on the 2nd instant between the Presidency College and the Medical College. The Presidency boys won by a big margin of 4 goals to one. The Medicals are distinctly unlucky in not scoring although they had a fare share in the attack. The disaster was due to the poor goalkeeping of their custodian. The game was interesting throughout. This is the seventh time that the Presidency boys annexed the coveted shield for the collegians.

Trades Cup. The final was played between the Nationals (Calcutta) and the Chandernagore F.C. (last year's holders on the 6th instant after another day's contest resulting in a draw. The National were victorious this time. They won by a fair margin of 2 goals to nil. The game attracted big audience. The Nationals were seen in their best form and were decidedly the superior team. It is nearly after a decade that they again annexed the shield.

BOMBAY FOOTBALL.

Harris Tournament. The final was played on the 29th August between Warwickshire Regiment and Royal Irish Rifles, when the Warwicks won. General Sir A. Barrett congratulated the winners in a nice little speech and Lady Banett presented the cup.

CRICKET. (BOMBAY).

Presidency vs. Parsis. The match resulted in a win for the Parsees by six wickets. In their first innings the Presidency scored 311 and 176 in the second. Against this the Parsees put up 276 and 215 for 4. The excitement ran high as the hour for closing arrived and each stroke of the Parsee players was wildly cheered as their total crept surely up to that of the Presidency. The game lasted three days. Major Greig of the Presidency scored a century (142). Among the proniment scorers Driver (64) Parekh (50) of the Parsees.

Major Greig's XI os Hindus. (Poona). The match resulted in a draw. Hindus—1st Innings 216. 2nd Innings—104 1. (3 wickets). Major Greig's XI 1st Innings—144. 2nd Innings—98 (1 wicket). The Hindus made a good show of their decidedly superior form.

MADRAS HOCKEY.

Inter Collegiate Hockey. The Presidency College won an easy victory over the Christian College Boys by 4 goals to nil.

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CUTTINGS.

Expenditure on Education in India.

'About two-thirds of the total expenditure can be assigned to different classes of educational institutions, and about one-third is treated as indirect expenditure on all classes of institutions combined.' The following statements show the percentage of the total expenditure incurred on each of the different classes of schools and colleges and the indirect expenditure on all:—

Direct Expenditure.—

Arts colleges	6·04
Colleges for professional training ...	2·97
Secondary schools	27·61
Primary schools	26·96
Training schools	2·42
All other special schools ...	4·55
Total ...	70·55

Indirect Expenditure.—

University	2·1
Direction	96
Inspection	5·49
Scholarships	1·79
Buildings	8·89
Furniture and apparatus ...	1·97
Miscellaneous	9·15
Total ...	29·45

About 52 per cent. of the total expenditure in 1910-11 was met from taxation, *i.e.*, provincial revenues and contributions from district and municipal boards. About 27 per cent. was met from fees, and the balance provided by subscriptions, endowments, and miscellaneous receipts. The total expenditure has increased in the last ten years from Rs. 4,00,00,000 to Rs 7,20,00,000, *i.e.*, by 80 per cent. The increase in fees is about 60 per cent., while the increase from provincial revenues and local and municipal

funds is 110 per cent. The average annual cost of educating each pupil in the different schools and colleges in British India during 1910-11 was as follows:—

	Rs.	A.	P.
Arts colleges	173	6	10
Colleges for professional training	332	11	5
Secondary schools ...	22	12	7
Primary schools... ...	4	5	10
Training schools ...	148	1	3
All other special schools ...	22	10	7

Cost per each pupil in all institutions 9 3 7
As there was an increase of fees in secondary schools only recently in more provinces than one, it is of interest to notice that out of the Rs 22-12-7 that each pupil in a secondary school cost, only Rs. 4-10-9 comes from provincial revenues and only Rs. 2-2-5 from local and municipal funds, leaving so much as Rs. 15-15 5 to be met from fees and other sources. This rather disproves the case sought to be made out by the local governments concerned in support of the enhancement of fees. Of the Rs. 173-6-10 that each pupil in arts colleges cost, Rs. 104-14 4 comes from fees and other sources, leaving Rs. 66-2-11 to be met from provincial revenues and only Rs. 2-5-7 to be provided by local and municipal funds. Of the Rs. 332-11-5 that each pupil of colleges for professional training costs. so much as Rs. 251-11-4 is found by Government, Re. 1-7-4 by local and municipal funds, and Rs. 79-8-9 by fees and contributions, etc. As regards primary schools, the provincial revenues meet Re, 0-14-9, local and municipal funds Re. 1-12-3 and Re. 1-10-9 is met by fees. Each pupil of a training school costs Government Rs.119-3-5, while only Rs. 15-10-3 is found by fees, etc. It seems to us, on a review of these figures that the parents' contribution to the cost of primary and secondary education should be decidedly less than it is at present. After all it is upon the progress of those grades that the advancement of high education as well as of the general weal must depend.

Of the amount spent on arts colleges Rs. 42 91, 706 was spent on English and Rs. 72,571 on oriental colleges in 1910-11. The expenditure shows a steady increase, for the figures for 1906-07 were Rs. 30,43, 301, and Rs. 54,933 respectively. The expenditure on law colleges rose from Rs. 1,49,494 in 1906-07 to Rs. 2 7?,724 in 1910-11; that on medical colleges rose from Rs. 6,37,075 to Rs. 7,16,035 in the same period; on engineering colleges it rose from Rs. 6,27 390 to Rs. 7,27,035; on teaching colleges, from Rs. 1,78,363 to Rs. 2,83, 167, while the respective figures for agricultural colleges were Rs. 67,5?5 and Rs. 1,38,380. Altogether the expenditure on university education rose from Rs. 47,58,121 in 1906-07 to Rs. 65, 01,618 in 1910-11. The expenditure on secondary schools for boys rose from Rs. 1,29,53,370 in 1906-07 to Rs. 1 71,14 762 in 1910-11, while the corresponding figures for girls, secondary schools were Rs. 21,67, 393 and Rs. 28,13,831;—an eloquent commentary on the relative importance attached to boys' and girls' education by the educated Indian people. The outlay on boys' primary schools was Rs. 1,36,85,947, in 1906-07 and Rs. 1 6 ,99,639 in 1910 11, while that on girls' primary schools in the two years was Rs. 18,89 524 and Rs. 23,88661 respectively. The expenditure on special schools—training schools, schools of art, law schools, engineering and surveying schools industrial schools, commercial schools agricultural schools, reformatory schools, etc.—rose from Rs. 35 00,730 in 1906-07 to Rs. 10,15,816 in 1910-11. The total value of the scholarships awarded was Rs. 1 03,33 639 in 1906-07 and Rs. 1,40,16 498 in 1910 11. And the total expenditure on education was Rs. 7 20 23 671 in 1910-11 as against Rs. 5,60 13,111 in 1906-07. It is a record of progress that the educational statistics tell, though not of rapid progress.

Crown Quarto pp. 408

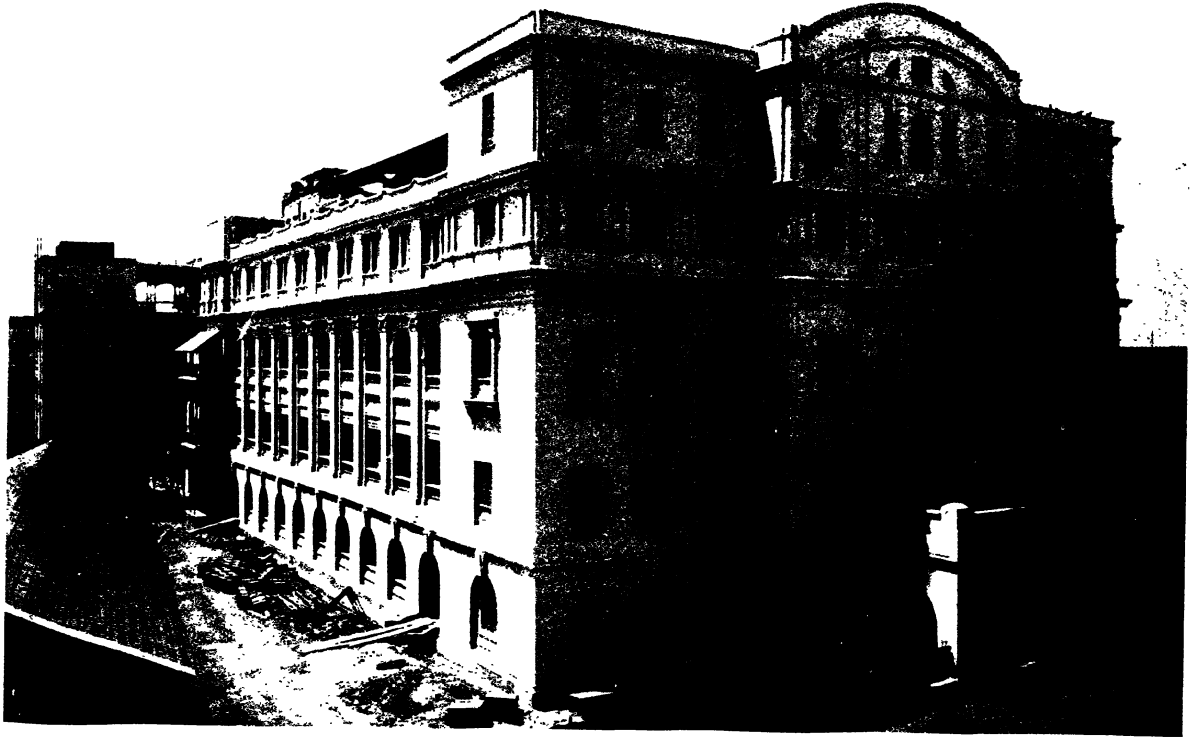
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VOL. II **THE COLLEGIAN** No. 12

All-India Journal of Education

CALCUTTA, THURSDAY, SEPTEMBER 26, 1912

The new Calcutta University Library Building

We are glad to present our readers as a frontipiece to this issue a half-tone reproduction of the photo of the "Darbhangha Library Building" which has just been completed. We are thankful to Sir Ashutosh Mukerjee, the Vice-Chancellor, for his kindness in granting us this permission. The building is a magnificent pile consisting of 5 storeys and its estimated cost is Rs. 8,00,000 (£53,333). In 1908 the Hon'ble Sir Rameshwar Singh K.C.I.E., Maharaja Bahadur of Darbhanga, made over to the Calcutta University a sum of two and a half lakhs of rupees for the erection of a building in which the University Library may be located. This munificent gift was accepted by the Senate with thanks and it was decided to name the Library after the Maharaja, who was subsequently nominated an Honorary Fellow for life as an eminent benefactor of the University. With this sum (2½ lakhs) as the nucleus, supplemented by other funds the Building was erected. It may now be termed the University College Building as the University Law College and the University M.A. Classes are held there. There is a big hall in each storey with side rooms which are utilised as reading rooms and tutorial classes.

* * *

The Second International Moral Education

The Moral Education Congress and Dr. Devaprasad Sarbadhikary

Congress was held at the Hague on the 23rd August 1912. Dr. Devaprasad Sarbadhikary is the only Oriental who has been appointed a member of the Permanent Executive. This we consider a unique honour not only to Dr. Devaprasad but also to us, his countrymen.

Dr. Sarvadicary delivered a speech of singular power on the importance of Moral Education. It is worthy to note the concluding remarks of Dr. Sarvadicary.

"The first step has been taken and the Moral School Master has not only to be abroad among children but children of bigger growth as well and permeate the ranks of Governments, legislatures and ministers as well as our homes. If in different parts of an Empire different treatment is meted out to members of the Empire, if the Black and the Brown continue to suffer from disabilities then the exertions of Congresses like yours will be wholly purposeless and futile. Till you are able to put an end to this abnormal state of things, strife between nations, strife between different sections of the same nation, between class and class, between capital and labour, nay between man and woman will go on multiplying and increasing. It has been urged earlier in the proceedings that no one need trouble himself about anything, certainly not religion, if one does one's duty to one's own self, one's own people and one's own country. That is a narrow and restricted sense of duty that can no longer obtain It is not right and therefore not expedient; for even morality has a strong physical basis, the low grade basis of expediency. God's whole world must be your sphere of action and till you are able to realize that and be prepared to do your duty loyally, faithfully and fearlessly, not a tithe of your work will have been done and your Congresses will have been worse than vain, literally a sham and a shame."

* * *

Death of an Allahabad Educationist

It is with deep sorrow that we are to record the death of Dr. A. H. Ewing, (who had been Principal of the Allahabad Christian College for a number of years,) which melancholy event took place on the morning of Friday the 13th September, at the comparatively early age of 48 years. Dr. Ewing was one of the foremost men of Allahabad. He had many and varied interests and he devoted himself to the welfare of humanity at large. He was one of the foremost Sanskrit scholars of the United Provinces. He was also a member of the Senate of the Allahabad University and had acted as its Vice-Chancellor.

* * *

Collections of Hindu University Subscriptions

We are glad to note the good progress the Hindu University Society is making towards the realisation of the promised subscriptions. During the first half of September a sum of Rs. 5,66,442/- has been collected. This may be regarded as fairly encouraging. But there is still much leeway to make up; we therefore earnestly request the donors to pay up their promised subscriptions as soon as possible, so that the required sum of fifty lacs may soon be available. The total collections up to the 14th September stand at Rs. 10,05,741, 8as, 7p.

* * *

A genuine appreciation

The following appreciation of Professor Radha Kumud Mukherjee's History of Indian Shipping from Principal R. P. Paranjpye, Senior Wrangler and fellow of St. John's College Cambridge will be interesting to our readers :—

"* * * As to the other book "A History of Indian Shipping and Maritime Activity" by Professor Radha Kumud Mookerjee, I read it with very great eagerness and was agreeably surprised at the vast amount of research that must have been necessary for its preparation The book will be a shining example to other young men who are looking out for a subject for research and will do much to take away the sting from the usual sneer at Indians that they lack originality. The get-up of the book is in fitness with the fine contents and the beautiful illustrations add a further charm. If I may suggest an improvement for the next edition which I trust will be soon called for, it would be the addition of a good map of India giving the position and names, both new and old, of all places that have been of maritime importance in the history of India.

The reading of the book creates in one the feelings of both pride and dejection. To think that our ancestors had such varied activity at sea and were familiar with all the then-known distant lands natur-

ally makes one proud of them To think, on the other hand, all this vast activity has disappeared and that the brave old captains have only the laskars as their descendants to be the subject of controversy and perhaps even of undeserved blame as on the occasion of the stranding of the 'Oceana' makes one very melancholy indeed. To me whose birth place is a small village on the sea-coast south of Bombay the sight of the sea itself is refreshing. It was particularly interesting to me to see mentioned in your book the names of various places close to my own village. Suvarnadurg the Modern Harnai, Dalhol, Jaygad, Chaul, Ratna giri, and several others that have found place your book are all on our way. The first is but two miles from my native village and is still a sight to be seen. About a mile from Subarnadurg is a small hill almost approaching the beach the face of each appears to have been cut off and which, tradition says, was bombarded in some fight The descendants of Angria perhaps still live and their records would be valuable to the historian and help to correct some prevailing opinions. Most of the Kankan ports formed at the mouths of creeks are being fast silted up and creeks that admitted country crafts which made voyages from Bombay to Cochin and sometimes even to East Africa are now too shallow to require even a ferry to cross them. Even within my memory of twenty five years some ports which admitted coasting steamers are now become useless for this traffic.* * *"

* * *

District Council of National Education Malda, Bengal

is interesting to note the progress done by this District Council. The Council was inaugurated by Professor Benoy Kumar Sarkar, M. A., of the National Council of Education, Bengal, whose work regarding Educational organisations on this part of India are so well known. The following extracts from the report will be found interesting :

"Better arrangements have been made for the teaching of Botany, Physiology, Physics and Chemistry. The Primary and Secondary schools managed and controlled by it have justified their existence by securing the sympathy of the public. There has also been an increase in the number of students and patrons.

The Literary Research Department has been able to bring out several publications of historical, linguistic and educational importance. An account of the work done during the last five years in this section has been published separately in Bengali. Systematic attempts are being made to promote research and original investigations, and scholars and fellows have been appointed to carry on the work throughout the year.

As notified in last year's report four student teacher of the schools under the District Council have been sent to America to complete their education in the University of Wisconsin.

The Fifth Standard National School at Sanihati in the District of Dacca which is controlled by the District Council of Malda is specially strong in its Carpentry Section and has made a name by supplying to customers from distant villages articles manufactured in its worshop. There has been a steady rise in the number of pupils and the free school for girls in connexion with this Institution has also done satisfactory work.

Through all its institutions the Malda Council has been imparting scientific, technical and ordinary instruction to something over 1,000 students. It holds annually two public Examinations at the Primary Fourth Year and Secondary Second Year Standards on the result of which it offers certificates prizes and monthly scholarships for higher education. It maintains a boarding house where a good many poor but deserving pupils live free of charge."

* * *

Education of the depressed classes

Lala Lajpat Rai has written a long note on this subject to the *Tribune*. He proposes to raise a sum of one lakh rupees and place it under the control of a central provincial organisation with which to grant pecuniary help to local organisations until they become self-supporting. Hitherto some Rs. 26,000 have been promised of which the Lala himself contributes Rs. 10,000.

* * *

Educational Conference at Gauhati

The Chief Commissioner held an educational conference on the 9th September 1912. The principal topic of the Conference was the Cotton College. Numerous suggestions were made. The Chief Commissioner's attitude was sympathetic. There was difference of opinion regarding the affiliation of the College to the B. L. standard. The Surma Valley delegates opposed the idea. Among the Assam Valley delegates the majority were for

raising the College to the B.L. standard. Hospital arrangements will be made in the College hostels and the Mahomedan hostel will be built at some distance from the Hindu Hostel.

* * *

Lord Carmichael and the Dacca Chatuspathy

His Excellency Lord Carmichael while at Dacca paid a visit to the Sutrapur 'Tol' accompanied by the Hon'ble Mr. Nathan. Lord Carmichael was taken to the room where Mahamahopadhyaya Madhab Chandra Tarkachuramanee teaches his pupils. His Excellency enquired with great interest many things about the students of the "Tol". The Governor was next shown the Library where His Excellency spent some time enquiring about the nature and class of books stored in the Library. The Mahamahopadhyaya blessed Lord Carmichael with "Dhan" and "Durba" which His Excellency accepted with reverence. Pandit Gauranga Chandra Kabyatirtha, son of the Mahamahopadhyaya then read the report of the "Tol" printed in English: His Excellency expressed his satisfaction at what he saw. We are informed that His Excellency did not merely express his sympathy, but sent the substantial donation of rupees three hundred to the Sutrapur "Tol."

Honouring a great Bengali Dramatist

A public meeting of the citizens of Calcutta was held at the Town Hall on Friday evening the 6th instant to commemorate the memory of the late Babu Girish Chandra Ghosh, the father and founder of the Bengali stage. The Hon. Maharajadhiraj of Burdwan presided over a large gathering.

The Chairman in opening the proceedings said that the meeting was both to express sorrow at the death of the distinguished dramatist and also to concert steps to commemorate his memory. He hoped that they would be able to fittingly keep alive ihe memory of the illustrious dead.

Sir Gooroodas Banerjee then moved the following resolution:—"That the gap caused by the death of Babu Girish Chandra Ghose, the brilliant star in the horizon of the Bengalee stage, author of various historical social and religious dramas and well-known actor, will not be easily filled and this meeting expresses its heartfelt sorrow at the death of such an illustrious man."

* * *

Proposed Theosophical College at Benares

Since her return to India Mrs. Annie Besant has been stating that her educational programme of the future will be in connection with the establishment of a Theosophical College as soon as the Hindu University is an accomplished fact, but not before. She is of course unable to enter into details at present. It is stated that Mr. Arundale, present Principal of the Central Hindu College will become the first Principal of the proposed Theosophical College when he returns to India after his work in England is over. Her intention is to make the proposed college truly national, because within its walls will be assembled teachers and students representing different nationalities and different religions. Her present intention is to raise as much money as she can for the Central Hindu College so that the Hindu University may begin its work with a thoroughly equipped college, financially sound. All money collected by her will of course be in trust for the University.

* * *

Death of a Madras Professor

The death is reported from Vizagapatam, of Mr. P. Sankaranarayana Chetty. After passing the M.A. he served in the Kumbakonam College as an Assistant Professor and then as Professor of Mathematics in the Maharaja's College at Vizianagram. For nearly twelve years he was tutor to the Princes of Cochin State. On the death of Prof. Ranganatha Mudaliar, he acted as Professor of Mathematics in the Presidency College, Madras. The deceased was well-known as a Telugu lexicographer. He was 55 years of age.

* * *

Dr. J. V. S Pope

We are glad to understand that Dr. J. V. S. Pope, the veteran educationist, who had served, with credit, the Cochin State as the special Educational Officer for 3 years, has how been appointed as the Director of education in siam on a handsome salary of Rs. 3200.



CALCUTTA UNIVERSITY.

M. A. RESULTS.

The undermentioned candidates are declared to have passed the M. A. Examination, 1912. (In order of merit).

ENGLISH (A).

Class I.—Bandyopadhyay, Srikumar, (Presidency College.)

Class II.—Ghosh, Anil, (Presidency). Guha Praphullakumar, (Presidency). Ghosh, Aswinikumar, (Presidency). Nagchaudhuri, Upendrachandra (Presidency). Sarkhel, Mohinimohan, (Dacca College). Chakrabarti, Mukundakisor, (Presidency). Chattopadhyay, Sailendranath, (Presidency).

Class III—Chaudhuri, Rajendrakumar, (Presidency). Baral, Gaganchand, (Presidency). Chakrbarti, Harendrachandra, (Presidency). Badri Nath, (Presidency). Chattopadhyay, Janakinath, (Presidency) Basu, Bimanbihari (Presidency). De Bankimchandra, (Non-Collegiate student). Datta, Dhirendranath, (Non Coll). De, Nirmalchandra, (Presidency). Bhattacharyya, Bankubihari, (Presidency). Majumdar, Lakshminarayan, (Dacca). Ghoshal, Haripada, (Presidency). Samuell, D. Non-Coll). Bandyopadhyay, Satyadayal, (Non Coll). Bindheshwari Prosad, (Non-Coll). Basu, Sasibhushan, (Non Coll) Sinha, Nandakishore, (Presidency). Sen, Nisikanta, (Presidency). Ghosh, Haripada, (Presidency). Lahiri, Hemantakumar, (Presidency). Ghosh, Priyanath, (Non-Coll). Mahbubul Huq, (Presidency). Bagchi, Kanailal, (Presidency).

ENGLISH (B).

Class II.—Datta, Sukumar, (Presidency).

Class III.—Chattopadhyay Manmathanath (Non-Coll).

PERSIAN.

Class II.—Fida Ali Khan, (Non-Coll). Abdul Hfiz, (Non-Coll).

ARABIC.

Class II.—Abdullah Abu Sayied, (Non-Coll).

HISTORY.

Class I.—Rose, John Walsalam, (Non-Coll). Bandyopadhyay, Gauranganath, (Presidency). Sinha, Panchanan, (Non-Coll).

Class II—Nageshwar Prasad, (University Student), Chattopadhyay, Sailapati, (Presidency). Ghosh Girindrachandra, (Presidency). Mukhopadhyay, Atindranath, (University). Nag, Ganendrakanta, (University), Basu, Mrinalkanti (Non-Coll), Md. Gholam Quadir, (Presidency). Sen, Amalendu, (University). Basu, Pulinchandra, (Non-Coll). Bondyopadhyay Baradakanta, Non Coll). Sinha, Nirsunarayan, (University) Gangopadhyay, Anukul Chandra, (University). Mukhopadhyay, Narendranath, (Non-Coll). Ghosh, Apurbakumar, (Non-Coll.) Ghosh, Monoranjan, (Non-Coll). Mukhopadhyay, Nanigopal, (Non-Coll). Das, Asutosh, (Non-Coll). Chaudhuri, Panchanan (University). Kanungo, Mokshadaranjan, (University). Raychaudhuri Hemchandra, (Presidency). Das, Jogendrakisor, (University). Ghosh, Asitaranjan, (Non Coll). Das Ghosh, Saratchandra, (University). Dasgupta, Jatindranath, (Non-Coll). Gupta, Nirmalkumar, (University). Datta, Adityachandra, (Non-Coll.)

Class III.—De, Prabodhchandra, (University), Basuray, Jagatnath, (Non-Coll). Sen, Dwijendranath, (Presidency). Rakshit, Ambikacharan, (University). Chattopadhyay, Grindranath, (Presidency), Ibnul Hasan, (Presidency). De, Rameschandra, (Presidency). Guha, Kaliprasanna, Presidency). Rai Tribhubannath Sahai, (University). Raychaudhuri, Bhupendranath, (Non-Coll). Ray Lalitmohan, (University). Samanta, Harikinkar, (Non-Coll). Som, Bhupendranath, (University). Chaudhuri, Rajanikanta, (University). Ray, Nanigopal, (University). Ghosh, Jibonkrishna, (University). Bhattasali, Nalinikanta, (Dacca). Basu, Atindrakumar, (University). Adiluz Zaman Khan, (Presidency).

POLITICAL ECONOMY. GROUP A.

Class I.—Datta, Satyendranath, (University).

Class II.—Brij Narayan, (Presidency). Radhakrishna Jha, (Presidency). Bandyopadhyay, Jitendra chandra, (University). Basu, Prabodhchandra, (University). Raychaudhuri, Santimay, (Presidency).

Class III.—(In order of merit.) Purkayastha, Kshirodchandra, (Non-coll.) Ghosh, Dhirendranath (Non-coll). Debbarman, Lalitmohan, (Presidency). Chattopadhyay, Binodbihari, (University). Pal, Nisi kanta (University). Sinha, Indubhusan, (Presidency). Chowdhuri, Hemadakanta, (Presidency). Alimuddin Ahmed (Dacca). Mittra, Satyendrachandra (University). Sinha, Saktisaran, (University). Misra, Godabaris, (University), Ghosh, Birajmohan, (University). Dasgupta, Pramathnath, (Presidency).

POLITICAL ECONOMY (B)

Class I.—Mukhopadhyay, Panchanandas, (Presidency). Basu, Dhirendranath, (Presidency). Chakrabarti, Satischandra, (Non-coll).

Class II.—Mitra, Rabindrakumar (Presidency). Sengupta, Pratapchandra, (Non coll. Chattopadhyay, Asiranjan, (Non-coll), Raha Randolph, (Presidency). Dhar, Amulyaratan, (Non coll),

Class III.—Basu, Prakaschandra, (Presidency). Reza, Hosain, Presidency). Mukhopadhyay, Jitendra nath (Non-coll).

PURE MATHEMATICS.

Class I.—Majumdar, Narendrakumar (Scottish Churches College).

Class II.—Sengupta, Binodbihari (Non-coll), Chakrabarti, Aswinikumar (Non-coll). Dasgupta, Kamalaksha (Scottish Churches).

Class III.—Gupta, Gurudas (Non-Coll). Ghatak Tarasankar (Scottish Churches).

MIXED MATHEMATICS.

Class I.—Ghosh, Satishchandra (Presidency).
Class II —Chattopadhyay, Kusiprasun (Non-Coll).

CHEMISTRY.

Class II —Basu, Mathuranath (Non-Coll).
Class III.—Sen, Umeschandra (University). Chakravarti, Ranjit Kumar (University).

BOTANY.

Class I.—M. S. Ramaswami (Non Coll).

N. B.—The results of the Sanskrit (A) (B) and (D) Groups Pali (A) Group, Comparative Philology and Philosophy will be published later on.

M. Sc. RESULTS.

The undermentioned candidates are declared to have passed the M. Sc. Examination, 1912. (In Order of Merit).

PURE MATHEMATICS.

Class I.—Gangopadhyay Surendramohan Scottish Churches) Bhattacharyya, Taraknath, (Scottish Churches) Mallik, Mohanlal, Scottish Churches).
Class III.—Basu, Gopendranath, (Non-Coll.) Chattopadhyay, Monomohan, (Non-Coll.)

MIXED MATHEMATICS.

Class I.—Bagchi, Kalidas, (Presidency)
Class III.—Patra, Saktipada, (Presidency).

PHYSICS.

Class I.— Mittra, Sisirkumar, (Presidency). Acharyya, Susilkumar (Presidency).
Class II —Rudra, Abinashchandra, (Presidency). Pradhan, Sitanath, (Non-Coll).
Class III.— Mukhopadhyay, Dhirendranath, (Presidency). Basu Sibnarayan, (Presidency). Mukhopadhyay, Dwarkanath, (Presidency).

CHEMISTRY.

Class I.—Datta, Rasiklal, (Presidency). Ray, Kshitischandra, (Non-Coll). Ghosh, Brajendranath, (University).
Class II.—Sengupta, Jitendrakumar, (Presidency). Sen, Surendrabhushan, (Presidency). Basu Pareshnath, (University). Gupta, Harendranath, (Presidency). Basu, Nirmalchandra, (Non-Coll). Majumdar, Jnanendranarayan (Presidency). Ghosh, Sudhamay, (Univesity).
Class III.—Chakrabarti, Akhilchandra, (Presidency). Sanyal, Phanibhushan, (Non-Coll). Mukhopadhyay, Pannalal, (Presidency).

GEOLOGY.

Class II.—Mukhopadhyay, Phanindranath, (University). Basu, Satyendrakumar, (University). Basu Birendrakumar, (University).
Class III.—Basu, Barendranath, (University) Datta, Sureschandra, (University). Datta, Nanilal, (University). Sen, Nityaranjan, (Non-Coll).

BOTANY.

Cllass III.—Sen, Rajkumar, (Non-Coll).

B. L. Results

At the Final B. L. Examination held in July 1912, 190 students have passed, of whom 7 are placed in the first division and 183 in the second division. Kaliprasad Khaitan from University Law College heads the list of successful candidates.

Fello

The 'Gazette of India" notifies that Babu Benoyendra Nath Sen. M.A. Captain C. L. Peart, Lt.-Col. Deare I.M.S., and Mr. H. Stephen, M. A. are nominated ordinary Fellows of the Calcutta University.

Orissa Law Scholars

The following candidates are elected to the Government Orissa Law Scholarships: Rabindra Mohan Datta, Harihar Dass, Kripa Sindhu Misra, Bhim Rau, Shaikh Mansur, and Dibya Sinha Panigrahi. The scholarships are tenable at the University Law College, Calcutta.

BOMBAY UNIVERSITY.

Medical Exams

The Preliminary Scientific, Intermediate M. B. B. S. and Second L. M. S. Examinations are to be held on the 19th and 20th September and on the 7th October. The following gentlemen are appointed as examiners. PRELIM. SCIENTIFIC: *Chemistry*—Major W. H. Dickinson M. B. B. Ch. I.M.S, and A. K. Tun Esq. *Biology*—Messrs T. D. Velankar and B. P. Karani. *Physics*—Messrs D. R. Bondi and L. L. Joshi. INTERMEDIATE M. B. B. S.—*Anatomy*—Major T. S. Novis and Mr. D. D Baria. *Physiology* and *Histology*—Major L. T. R. Hutchinson and Mr. M. D. D. Gilder. *Materia Medica* and *Pharmacology*—Messrs E. Moses and S. A. Banker. SECOND L. M. S.—*Anatomy*—Major T. S. Novis and Dr. H. A. Nakhooda. *Physiology* and *Histology*—Major Hutchinson and Mr. D. L. Gonslaves.

Mangaldas Nathoobhoy Travelling Fellowship

Notice is being given that the fellowship will fall vacant on 1st. January 1913. The last date for sumbitting applications is Friday he 18th October 1912. It is open to all graduates of the Bombay University, being Hindus who shall not be more than five years' standing from date of their graduation. It shall be tenable by any one fellow for a space of three years. The conditions of tenure are that the fellow must leave Bombay and proceed to Europe within two months after his election; that he shall spend the whole of the three years subsequent to the date of his leaving India for Europe, out of India, and six months at least out of each year in Great Britain or Ireland; and that he shall report twice a year to the University Registrar as to the mode in which his time has been spent. The fellowship was endowed in 1863. The fellow shall receive in half-yearly instalments the interest due upon he endowment.

PUNJAB UNIVERSITY.

Admissions

On whatever date in September or October a College opens, no student shall be admitted to a new class who does not join within 7 days of the opening of the College. All applications from candidates requesting to appear privately at the Examinations of the University of 1913 should reach the Registrar's office not later than 15 days before the beginning of the Session. No candidate should be recommended as a private candidate (*i*) if he has failed to pass in Practical Science; (*ii*) for the Engineering Examination; (*iii*) if for the B.A., B.Sc., B.T., he fails in two subjects or for the Intermediate, in three subjects; (*iv*) unless his application is forwarded by the Principal of the College he has last attended with certification of the correctness of the facts stated and a record of his House Examination Results.

Exam. Results 1912

At the Intermediate Exam. in Arts 544 candidates have passed of whom 47 are placed in First Division 351 in Second Division and 146 in the Third Division. Atma Ram Bhadwan (D. A. V. College) stood first. At theIntermediate Exam. in Science, 125 students have passed of whom 33 are placed in first division, 82 in second division and 10 in third division. Kailash Ch. Mohindra Govt. Coll. Lahore headed the list. 51 candidates passed in the Additional Test in Chemistry.

At the B.A. Examination (Pass) 192 students passed of whom 5 are placed in first division, 98 in second division, 89 in the third division. Ajudhia Nath (D. A. V. Coll.) stood first.

The following have got Honours at the B.A. Exam.—*English*—Daulat Ram Badhwan (DA-V College).

Sanskrit—Jai Krishna Sharma, Ramlal Sharma (DA-V College) Ram Chandra Manochar (Government College). Ram Labhaya (DA-V). Krishna Chandra (F. C. College).

Persian—Nazir Ahmad (F. C. College). Mohammad Kazin (Islamia). Newul Kishore Varma (Govt. Coll).

Philosophy—Satish Chandra Chatterji, Barakat Rahmat Ullah, Shambhu Nath Gunjee (St. Stephen's College)

Economics—Har Sahai Mankandru (Dyal Singh College).

History—Rajaram Varma, Chuni Lal Anand (DA-V).

Physics—Daulat Ram Hooja (Govt. College).

Applied Mathematics—Bal Mukund Kalra (DA-V). Parmanand Jain (Dyal Singh). Abinash Chandra Biswas (F. C. College). Khanda Ram Kalra (DA-V). Nathu Ram (Dyal Singh). Padam Chand Taela (St. Stephen's). Ishar Singh Guman (Govt. Coll) Anand Prakash (F. C. College).

Pure Mathematics—Ajudhia Nath (DA-V). Wazin Singh Aggarwal (Govt.) Krishan Lal Sharma (F. C. College) Hem Ch. Jain (Govt). Kedar Nath (DA-V). Bindra Ban (Dyal Singh). Dina Nath Rampal (Govt). Baldeo Singh (DA-V).

B. Sc. Examination :—*First Division*—Sri Kishan Kapur (Govt. Coll). Raghu Nath Dass Talwar (F. C. Coll). *Second Divn.*—S. L. Ghosh (Govt) F. Maya Das (F. C. Coll). Kundan Lal Bhati, Shiva Deva Singh Greval, Haripada Chowdhury, Bahadur Singh, Har Narinjan Dass Coomawe, Karam Chand Mehta (Govt. Coll). HONOURS : *Astronomy*—Sri Krishan Kapur (Govt. Coll.) Raghu Dass Talwar (F. C. Coll) Jiwan Dass Sethi (Govt. Coll). *Zoology*—Shiva Deva Singh, Har Narinjan Dass Coomawe (Govt. Coll).

TABULATED LIST.

[The names of the Colleges are arranged in order of the no. of points gained by each by the method of marking as follows : 3 points for every *honour*, 3, 2 & 1 respectively for each First or or Second or Third Divisions]

B. A.

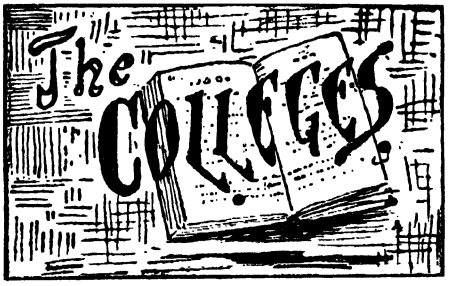
Colleges	Second Div	Third	(Hono	Total
D. A-V. College, Lahore ...	20	16	11	38
Forman Christian College Do. ...	22	22	5	44
Government College Do. ...	12	6	7	30
Dyal Singh College, Do. ...	9	14	4	24
St. Stephen's College, Delhi ...	15	6	4	21
Islamia College, Lahore ...	4	3	1	7
Private Candidates ...	3	6	—	9
Prince of Wales' College, Jammu...	3	5	—	8
Khalsa College, Amritsar ...	3	4	—	7
Mohindra College Patiala ...	—	6	—	6
Gordon Mission College Rawalpindi	2	—	—	2
Sri Pratap College Srinagar ...	—	1	—	1

B. Sc.

Government College, Lahore ..	7	1	4	9
Forman Christian College Do. ...	1	—	1	2

Intermediate in Science

			Third Di
Government College, Lahore ..	13	30	2
Forman Christian College, Do. ...	11	19	0
Dyal Singh College, Do. ...	4	9	2
D. A-V. College, Do. ...	1	11	2
Gordon Mission College, Rawalpindi	2	7	4
Khalsa College, Amritsar. ...	2	3	0



and Schools.

La Martiniere Founder's Day

The seventy-seventh commemoration of Founder's Day of La Martiniere, Calcutta, was celebrated in the College premises on Friday noon, the 13th instant Mr. W. A. Lee presided and there was a large attendance of ladies and gentlemen. Among those present were Mr. Justice Chitty, the Ven'ble Archdeacon Wickens, Canon Jackson, Mr. J. H. Hechle, Rev. Mr. Gee and Rev. Mr. Meldrum.

The proceedings commenced with service in the School Chapel at noon, the special form of service for Founder's day being used. The preacher was the Ven'ble Archdeacon Wickens. In the course of the sermon the Archdeacon exhorted his young hearers that side by side with the best education that they were receiving they should try to cultivate the best character. They could do that best by first following the Ten Commandments of God, and by introspection as to what their weak points were. They should in this respect aim at perfection. There was no good of their saying that they tried to become perfect. The weakest part of their character at the crucial point might not stand the strain and might land them into difficulties. The only way how to cultivate their character was to begin doing so while they were young, by strictly following the Ten Commandments of God, and trying daily to rectify their weak points.

After the service the President presented the Founder's medals for good conduct and other medals and certificates.

The President then addressed the assembly. In the course of his address he said that to feel that one's talent in some respects deserved and obtained a distinction beyond others was to feel an importance and uplifting which gave one pride of oneself. It was a very good thing to have a desire to be at the head Form, to be at the top of the class, captain of the team, leader of the patrol, a colour sergt. and the most successful among the competitors. But they could not all be the first, they could not so to speak become the Generals of the Army but all could aim at that position There were so many important and impressive historical personages that they could not remember the names of all of them. To the mind of the speaker there was one figure in the history who appealed to his imagination more than anyother—he was not a general or a leader of men, but a man in whom the whole of the United States and the whole body of the Cubans had the greatest faith and trust to carry out their wishes at a critical portion of Cuba's condition. That youngman was Rowan, a woodman and scout. The story about the man was that during the recent Cuban insurrection about 14 years ago, owing to the maltreatment of the Cubans by the Spaniards, the Americans and Cubans made common cause and carried on a war against Spain. In order to finish the war quickly, the American General thought it important to send a letter to the Cuban leader as to how they should combine. The American General did not know the whereabouts of the Cuban leader. The country being mountainous nobody knew the head quarters of the leader and everybody knew how risky it was to pass through such a country especially at a time of internal dissension, lest he might be put down as a spy by one or the other of the parties and be likely to be shot. There was one fellow named Rowan, a very reliable man and a person who could always be trusted to carry out any orders entrusted to him. The letter was then made over to Rowan who took it wrapt up in a piece of waterproof fastened on to his belt. Rowan was lost sight of for some days but be eventually succeeded in taking the letter to the leaders of the Cubans and thus saved the prolongation of the war.

The President said that he hoped that the students of this institution would emulate the character of Rowan for reliability. The secret of getting such a reputation always lay in the fact of doing their best in times of stress. Whatever they did they should do as if that was just the one thing in the world

that they wanted to do. The students of this institution were fortunate in belonging to it. It was a school of which they should be very proud. He hoped that when they left the school they would one and all join the "Old Boys' Unions" and thus help the school which was doing so much for them. In conclusion he said that they should not slacken their efforts but should continue to persevere.

With the singing of "Vive La Martiniere," followed by "God Save the King," the proceedings closed with cheers for the for the President, Mr. Arden Wood, Principal of the Boys' School, Miss Raymond, Principal of the Girls' School, the Masters and the Old Boys.

The dinner given to the boys and girls in accordance with the Founder's will was served in the Dining Hall of each School immediately after the conclusion of the proceedings in the Chapel.

During the dinner the toast "The memory of the Founder, General Claude Martin," was drunk in solemn silence.

Patna College

Pandit Harnandan Pande, B.A., ex-Student of the Patna College, has been granted a scholarship of Rs. 75 per mensem for research work in the archæological department. This is the first instance in which a Beharee has been awarded the Government of India's Scholarship.

The Madras Christian College

The Inaugural Meeting of the Associated Societies was held on Monday the 16th instant at 5-10 P.M, in the Anderson Hall, Esplanade, under the Chairmanship of the Hon'ble Sir Justice J. E. P. Wallis, Barrister-at-law and Vice-Chancellor of the Madras University. Mr. V. S. Sreenivasa Sastriar, B.A. L T., of the Servants of India Society, delivered an address on "Literary Occupations in South India."

Law College Madras

Mr. Reginald Arbonin Nelson, Principal Law College Madras has been granted an extension of leave on Medical certificate for three months.

Government College, Mangalore

A Correspondent writes:—College Day will be celebrated on the 21st September. It is hoped that as many as the old students as possible will be present and will show their interest in the College by subscribing towards the expenses. Subscriptions may be sent to the President College Day Committee, Government College Mangalore.

Coimbatore College Arbor Day

Mr. C. E. C. Fischer has organised a movement to celebrate the Arbor Day in Coimbatore annually. He called for a meeting of Principals and Head Masters of the various schools before he went on tour a few days. It was attended by Mr. E. E. Berry M.A., (Cantab), Rev. F. Heade M.A., Messrs. K. Kannan, B.A., L.T., and P.J. Devasagayam, B.A., L.T. It was at this meeting decided to address the young boys of the Schools in their own vernaculars on the above subject, so that the younger generation may come to have an abiding interest in nature study in general and tree planting in particular. In this their co-operation and sympathy was assured and it was decided to ascertain, what extent of land was available for planting trees. For the present the promoters decided that the new "Coronation Park" might, with advantage, be planted with various kinds of trees by the pupils of the various institutions for boys and girls.

It is the opinion of the organiser to give these addresses in Tamil by the two Indian members of the staff of the Madras Forest College in vernacular, Messrs. V. Subramania Iyer, M.A. and V. R. Venkatrama Iyer and and Messrs. C. E. C. Fischer and Cowley Brown in English.

The first lecture was delivered on the 24th August, to the pupils of the first, second and third forms of the Coimbatore College Branch at the College Hall, by Mr. V. Subramania Iyer in Tamil, on the subject of Arbor Day. The lecturer traced the history of the movement and its observance by the Schools in Western countries (Europe, America,) and also in some parts of Asia, in great detail. He impressed clearly upon the youngsters present on the importance of Arboriculture and exhorted them to take an intelligent interest in the vegetable world.

Student Camp at Negombo Ceylon

On Wednesday evening, August 20th, there ended a series of student conferences which will mark an epoch in the history of Christian student organizations in Ceylon. So valuable and so successful were these meetings felt to be that by a unanimous vote it was decided that similar student camps should be held annually.

The attendance was not large—the numbers were purposely limited,—the register showing a total of between fifty and sixty students and leaders. Ceylon India, England and America were each represented, the India delegation including B.L. Rallior Ram, and S. P. Singha, the two secretaries of the Punjab Christian student Union, who are on a tour of student camps about to be held in in India and who are incidentally working in the interests of an all-India student conference to be held during the coming visit of Mr. John R. Mott.

Inevitably the Y. M. C. A. leaders bulked large in these conferences, as these are the men who are in the foreforn of work among the students. Messrs. T. C. Carter and F. V. Slack, were present from India, together with M. G. Brooks and W. W. Crutchfield, General Secretaries for Ceylon. Along with these were associated as leaders several of the younger men from Trinity College, Jaffna College, Wesley College and Richmond College, St. John's and Kings-wood also had student representatives. Several speakers not directly connected with any College were secured for special meetings, but a large proportion of the work was done by the students themselves.

Fergusson College Poona

His Excellency Sir George Clarke on the 5th September opened the N. M. Wadia amphitheatre as part of the Fergusson College. This college which is managed by the Deccan Education Society secured a grant of Rs. 25,000 from the trustees of the Wadia charities and decided the name of the building after them. There was a large gathering present to witness the ceremony. Sir George Clarke made a long speech eulogising the work of the College and combating the idea of Colonial Self-Government as something that involved absolute destruction of all that is most deeply ingrained in the life of the people of India.

Rajkumar College Rajkote Old Boys' Club

An Old Boys' Association and Club of the Rajkumar College which has been founded at Rajkot held its first dinner party on the 30th August. The Club which was established a year ago received a good support from H. H. the Jamsaheb and the Hon. Mr. Hill. The Club consists of 40 members, 24 members and other European guests took part in the party held on the 30th, among whom were the Agent to the Governor Mr. J. Sladen, and H. H. the Maharao of Cutch. His Highness as President of the Club made a short speech. No building is as yet erected for the Club. A fund has been raised and Rs. one lakh and a half have been subscribed and a resolution was passed in the meeting held on the 29th for collecting half the amount To the club building fund the subscriptions are :—Rs. 12000 by the Junagadh State, H. H. the Maha raorshi of Cutch Rs. 1,00,000, H. H. the Thakor Saheb of Morvi Rs. 10,000, H. H. the Rajasaheb of Dhrangadhra Rs. 5000, the Nawab Saheb of Radhanpur Rs. 4,000, the Porbandar State Rs. 4000, the Rajasaheb of Wankaner Rs. 3000, the Thakore Saheb of Limbdi Rs. 3000, the Palitana State:Rs. 3000 and the Thakor Saheb of Rajkot Rs. 2000.

Barton Female Training College Kathiawar

THE annual prize distribution gathering of the Barton Female Training College was held in the evening of the 6th inst., in the Connaught Durbar Hall Kathiawar, under the presidentship of Mr. J. Sladen, I. C. S., Agent to the Governor in Kathiawar. The gathering was largely attended by the Agency European and Native officers, Rajkumars of the Rajkumar College, prominent gentle men of the city and civil station and the staff of the educational department. In the beginning the lady students of the College recited a song in Sanskrit and then the girls of the practising school, went through scarf drill, the Gujarati song and dialogue. The report of the College was then read out by Mr. C. J. Mayne, Principal Rajkumar College on behalf of the Lady Superintendent.

Bahauddin College Junagadh

The Rev. Dr. Mackichan, M. A., D. D., L. L. D. Principal, Wilson College, Bombay deli-

vered a lecture on "Lord Kelvin his life and work" to the students of the Bahauddin College, on Saturday evening, the 24th ult. in the College Hall, when Mr. L. Robertson I.C.S. Administrator, Junagadh State presided. In response to the invitation sent by the Principal, eminent state officials and gentlemen of note graced the occasion with their presence, which was largely attended by students present and past.

After briefly alluding to the admirable work the college was doing towards the efficient coaching up of students under its able Principal Mr. James Scott and pointing out the advantages the students of Kathiawargenerally and local students particularly, had been deriving from such an institution as the college, he came to the subject proper which he handled in a way singularly creditable to to his power of elocution and scientific accuracy in the acquisition of knowledge. A detailed and correct account of the youthful and laborious studies of 'one of the greatest physicists Great Britain has ever produced" interested the curious audience and taught so many important lessons to students of science. The general attention and interest centred round the lecturer's discriminate and vividly descriptive enumeration of Sir William Thompson's inventions and discoveries which have laid the present civilized world under deep debt of everlasting gratituder While deducing the general lessons and sound morals from such a noteworthy and eventful life, as that of Lord Kelvin, which bore ample testimony to his nicety of judgment and tact of orderly arrangement, he hit upon the right mark in laying stress upon the strength of character a professor or a teacher ought to possess, a permanent print as it leaves upon the pupils under him.

Mr. Keshaolal Labhshanker Oza. M. A. has been appointed, Lecturer in English, with effect from 1st September, 1912. The college closes on the 30th instant for the long vacation to reopen in January 1913.

A CORRESPONDENT WRITES :—

Sri Pratap College Srinagar

Every Kashmiri deeply feels the undesirable absence of Pandit Ikbal Krishen Shargha B. A, F. A. U., the Principal at the College, for about one year. Happy was the luck of Kashmir when it secured his services as the Principal in the year 1910. The condition at the College was miserable before his arrival. The material and the financial basis were far below the ordinary standard, and it had few really efficient and qualified men on its staff. To be brief, our most esteemed and beloved pandit sahib had to meet many difficulties which he calmly faced with augitic patience and endurance. Ever exercising his untiring efforts ever setting his whole heart exclusively in the good and welfare of the College, he proved a heavenly support. The scope here does not allow a full enumeration of his effective and wise measures that he took to ameliorate its condition. In recognition of his praiseworthy services thus rendered to the College he was granted a khilat (a robe of honour) by the Durbar and His Highness the Maharaja Sahib Bahadur who highly appreciated his work at the last education meeting of the State. He after many struggles succeeded in procuring affiliation in B. A. History and Philosophy and always remained anxious to secure the highest position for the institution.

Our pandit sahib is not less known and appreciated in India, Europe and America for his high achievements in philosophy and therefore it is hardly necessary to write more. All the present physical, moral, religious and intellectual accomplishments of the College are due to his unswerving faith in the ideal of service, his sense of responsibility and his deep rooted love that he bears to Kashmir which is his real home.

Professor Chakravarti of Cotton College Gauhati will soon be coming to officiate as the Principal.

On his tour to Kashmir H. E. the Viceroy will pay a visit to the College on the 13th of October 1912.

M A-O College Aligarh

The annual Budget meeting of the Trustees of the Aligarh College is to be held on 29th September. The figures of the Budget are as follows:— Estimated income for 1912-13 Rs. 2,30, 409. expenditure Rs. 2 50,641 ; deficit Rs. 20,232. In order to make up for the deficit the Trustees have asked the Central Committee of the Mahomedan University to grant them the sum by way of a loan, but the matter is still under discussion.



City and Guilds Exams. Indian Successes

The results of the City and Guilds of London Institute examinations held in the Victoria Jubilee Technical Institute, Byculla, Bombay, in April, have been received.

Thirty-two students of the Institute entered for the cotton spinning examination and 28, or 88 per cent., were successful, *viz.*, 12 in the ordinary grade I year, 10 in the ordinary grade II year and 3 in the final section A and 3 in final section B. Thirty-one students of the Institute entered for the cotton weaving examination, and 31, or 100 per cent., were successful, *viz.* 14 in the grade I, 13 in grade II, and 4 in the honours grade. Seventeen of the Institute students entered for the mechanical engineering examination and 6, or 35 per cent. were successful. *viz*, 5 in grade I, and 1 in grade II. Thirty-nine students of the Institute entered for the electrical engineering examination, and 21, or 68 per cent. were successful, *viz*, 11 in grade I, 9 in grade II, continuous current and 1 in grade II, alternate current. Fourteen students of the Institute entered for the motor car engineering examination and 7 or 50 per cent., were successful. Telegraphy: appeared 20, passed 7; telephony: appared 8, passed4

These results compare very favourably with the results obtained in England, the papers and conditions of examinations being the same in both cases.

The following is the list of successes forwarded from the authorities in London :—

Cotton Dyeing, Grade I—Atmaram V. Nimbkar and Gunderia H. V.

Cotton and Linen, Bleaching and Finishing, Grade I.—Amarendra Nath Bose.

Cotton Spinning, Grade I.—14.

Cotton Spinning, Grade II.—Aaludin J. Nathani; Naoroji P. Dalal; Row V. Hanumanta; Chobe D. J.; Syed Abdul Majid; Meswani V. M.; Gajanan V. Kune; Bhagwager J. N.; Hoal Eliah and Ratilal H. Kapali.

Cotton Spinning, Final, Section A—Nilkant Sortur V., Sorabji B. Dalal and Advani P. B.

Cotton Spinning Final Section B.—Darashah H. Kalapesi; Pillai K. S.; and Engineer Naoroji H.

Cotton Weaving, Grade I—16.

Cotton Weaving, Grade II—Venkatasubramania Aiyer P. V.; Manecksha B. Cooper; Bhimarao P. Kulkarni; Mahedoe B. Mande; Moreshwar N. Jape; Advani P. B.; Harilal M. Patel; J. R. Limaye; Naoroji A. Darukhanawala; Engineer Naoroji H.; Prabhakar H. Godbole; Chet Ram Aggarwal; and Syed Abdul Majid.

Cotton Weaving Final, Section A.—Valladres J. F.

Cotton Weaving Final. Section B.—Nariman A. Wadia. Mahadeo B. Mande; and Chandulal T. Deshbhakta.

Telegraphy, Grade I—Naranji B. Desai; Parikh J. H; Pereira C. F.; Nadhan, V R. H.; Makanji V. Desai; and Udipi Srinivasa Rao.

Telegraphy, Final.—Inamdar U. V.

Telephony, Grade I—Jivanji P. Desai; Fadhan V. R. H.; Ratilal N. Daftary; and Vaman B. Mahant.

Electrical Engineering, Grade I.—14

Electrical Engineering (Continuous Current) Grade II—Jivanji Pragji Desai; Ardeshir K. Modi; Jagdishchandra Mahindra; Nadhan V. R. H.

Electrical Engineering (Continuous Current). Grade II.—Inamdar U. V.; Ratilal N. Daftary; Hormasji S. Doctor; Krishnarao D. Nerurker; and Pillai N. S.

Electrical Engineering (Alternate Current, Grade II.—Pillai N. S.

Mechanical Engineering Grade I.—Doraiswami K.; Valsangkar V. S.; Homi N. Shastri; Viswandhan S.; Iyengar S. Narasimha; and Kandanâpalli S. Bhadra.

Mechanical Engineering, Grade II.—Kandanapalli S. Bhadra.

Joinery, Grade I.—Gajanan K. Arass; and Victor S. Mohen.

Carpentry and Joinery, Grade II.—Sadashiv B. Pangarkar.

Milling Flour Manufacturing), Grade I.—Lilaram K Bahl.

Milling Flour Manufacturing), Final. Dadabhoy R. Motiwala

Principles of Arts in Pattern Designing Grade, I.—Punjabi Hiranand C.

Motor Car Engineering, Grade I.— Mancher Lal Paneser; Horilal H. Mistry; De Rozario Peter V.; Ramamurti C.; Chandrashekara Iya H. R.; Menon T. C. K.; and Pereira C. F.

Engineers Quantities and Estimating, Grade I.—Chandrashekara Iya H.

Engineers' Quantities and Estimating, Final - Jagdischandra Mahindra.

Cotton Spinning, Grade II. Wesmaker N G.

Hatwa Technical Hall Dinapore Bihar

The resident of Dinapore Bankipore and Khagole were invited by Brother George Principal of St. Michael's High School, Kurji, to witness the ceremony of laying the foundation stone of a hall for imparting manual instruction. The young maharaja of Hutwa accompanied by his mother, the Maharani Saheba, motored down to the School and the former was conducted to a seat on the dais and the latter was received by Mrs. L. G. Miller on behalf of the principal and taken upstairs where a portion of the terrace was screened off from which she was able to witness the procession in the lawn below. The school choir sang a song of welcome and the principal read an address in which he extolled the virtues of the house of Hutwa and expressed pleasure at being permitted to name the Hall after it. The Maharaja briefly replied on behalf of his mother and himself and said that although their religion differed yet he believed that it was the same God they all worshipped and he hoped and prayed to him that the school might flourish and meet with every success. He then proceeded to lay the foundation stone and on his returning to the dais the principal thanked the Maharaja and Maharani for having graced the occasion and for ther generous gift of Rs.7,000 for the construction of the hall

OTHER EDUCATIONAL ADVANCES

National Medical College Bengal.

Foundation Day.

The Foundation day celebration of the National Medical College took place on Saturday, the 14th instant Mr Justice A. Chaudhuri presiding over a large attendance of the members of the College staff and several others interested in the welfare of the Institution.

ANNUAL REPORT.

Dr. M Chunder L.R.C.P., L.R.C.S., (Edin.) read the annual report, for 1911-12, which stated among other things: Col. Harris at a conference at the Secretariat suggested that all the institutions should meet and settle amongst themselves any scheme by which the amalgamation could be brought about The various institutions met on several occasions and at last agreed upon a scheme of amalgamation. The central ideas being (1) The formation of a conjoint board on the lines of the Royal College of Physicians and Surgeons, England, consisting of members of the various institutions together with official representatives and members of the general profession; (2 this board to have a general power of laying down the standard of examination, appointing examiners and other rules for the management of the amalgamated institution (3) there were to be two institutions which while having their own internal committee management, would be under the general management of the conjoint Board. The plan followed being in the main on the principle of what prevails in the general or Arts College which while having their own internal or house committee of management are under the University for all general purpose such as standard of teaching examinations etc., (4) that there would be in each institution (a) a college department which would if well-equipped be affiliated to the university for the M. B degree; and (b) a school department consisting of a vernacular and English section; (5) as regards clinical instruction, it was suggested that it should be carried on at the hospital attached to the respective institutions and also per-

mission was sought to utilise the Mayo, Shambhu Nath Pundit and Chaudney hospitals either under the present staff or such other arrangement which was to be made later; (6) the examination for which the students would appear would be a recognisable qualification.

Having distributed the certificates and diplomas Mr. Justice Chaudhury addressed the assembly, saying that such institutions were a necessity, for the Government ones were not sufficient to cope with the demand. He wished the institution every success.

A vote of thanks to the president ter minated the proceedings.

Lectures :—Lectures continue to be delivered regularly and in order to improve the growing needs of the practical subjects, several demonstrators have been appointed so that more individual attention may be given to the students.

Dissections :—We have also increased the dissection staff by the addition of demonstrators.

Discipline : -Discipline of the institution remains at a high water-mark, the institution being singularly free from the trouble which we have lately had.

Improvements : -Besides the addition to the staff noted above considerable addition has been made to diagrams, Pathological and Anatomical specimens. Through the munifi ient donation of the Honourable Maharaja Bahadur of Kasimbazar, instruments for the Physiological, Botanical and Chemical laboratories of the standard prescribed by the Universities have been purchased. Unfortunately space being limited we are considerably handicapped in fitting up the lab oratory properly. However we have done the best we could and when we remove to our new buildings, we hope to arrange these laboratories in such a manner as to make them a model of their kind.

Visitors : -During the course of the year, several distinguished Officials and non Officials visited our institution amongst them being the Honourable Mr. W. C. Collin I.C.S., Presidency Commissioner, the Honourable Raja Kishori Lal Goswamy, Executive Member, Bengal Government, the Honourable Mr. Ananda Rao, Dewan of Mysore who paid a surprise visit, Babu Saroda Charan Mitter, late Judge High Court and Sir Pratul Chandra Chatterjee K.C.S.I. late Chief Judge Lahore. They were all pleased with the working of the institution and encouraged the staff in their work.

PUNJAB AGRICULTURAL COLLEGE.

Simla, Sept. 11.—It has been decided by the Punjab Government to inaugurate a class from October 1st next, for a vernacular course at the Punjab Agricultural College, Layallpur. The present scientific courses at the College do not provide for simple demonstrative teaching such as would benefit practical farmers, and the addition of the new vernacular course to the curriculum will, therefore provide comprehensive instruction for all those desirous of improving their knowledge of agriculture. The instruction will be simple and the bulk of the teaching demonstrative. The class will be placed under the superintendence of a College diplomate. This course is intended for (1) large landowners, who desire to improve their farms;; (2) persons, who wish to adopt the profession of land-agents or managers of estates under the Court of Wards; (3) selected revenue officials deputed by a Deputy-Commissioner; (4) Normal Schol masters; (5) small zemindars, who have passed the primary school examination. All applications for admission to the vernacular course should be addressed to the Principal of the College.

A special grant of two lakhs of rupees has been provided in the current year's Education State Fund budget for the expansion of primary education in the Mysore State, of which one lakh is for opening new schools and improving existing ones, and one lakh for school buildings. In addition a provision of Rs. 55,000 for new schools and Rs. 50,000 for buildings have been included in the Village School Fund budget for the current year.

Crown Quarto Excellent Articles

THE COLLEGIAN VOLUME TWO

WITH AN INDEX.

(From April to September 1912.)

Price Rs. 3, 4s. or $ 1.00 post free.



International Congress of Mathematicians

The fifth International Congress of Mathematicians opened at Cambridge under the presidency of Sir George Darwin, Plumian Professor of Astronomy, and about 670 delegates from twenty seven different countries were present.

Sir George Darwin, in his presidential address, remarked that the science of mathematics was now so wide and was already so much specialised that it might be doubted whether there existed to-day any man fully competent to understand mathematical research in all its many diverse branches. But if there was any place in the world in which so one-sided a president of the body which had the honour to bid them welcome was not wholly out of place, it was, perhaps, Cambridge. It was true that there had been in the past at Cambridge great pure mathematicians, such as Sylvester and Cayley, but they surely might claim, without undue boasting that their University had played a conspicuous part in the advance of applied mathematics. Newton was a glory to all mankind, yetCambridge men were proud that Fate ordained that he should have been Lucasian Professor there. But as regards the part played by Cambridge he referred rather to the men of the last hundred years, such as Airy, Adams, Maxwell, Stokes, Kelvin, and other lesser lights, who had marked out the lines of research in applied mathematics as studied at that University. Then, too, there were others, such as their Chancellor (Lord Rayleigh) who were happily with them. Up to a few weeks ago there was one man who alone of all mathematicians might have occupied the place which he (Sir George) held, without misgivings as to his fitness ; he meant Henri Poincare. It was at Rome just four years ago, that the first dark shadow fell on them of that illness which had now terminated fatally. The loss of France in his death affected the whole world.

A scholarship in architecture

Notice is given of a scheme of competitions for a scholarship in architecture of the value of 200*l.* a year, and tenable for three years at the British School in Rome, the competitions to be conducted by the Faculty of Architecture of the British School in Rome. Candidates must be British subjects and under thirty years of age at the date of the final competition in September, 1913. The first competition will be held between March 15 and May 15 next year. It will be conducted in three stages and begin with an open competition to qualify for the further stages, and will result in the selection of candidates to continue the competition, in which winners of the R.A. travelling studentships, of the Soane Medallion, the Tate Prize, the Owen Jones Scholarship, the Ashpitel Prize, and the Grissell medal will join. Also four candidates each may be nominated by the Royal Academy, the Royal College of Art, the Edinburgh College of Art, the Glasgow School of Architecture, the Architectural Association of London, the London University School of Architecture, the Manchester School of Architecture, and the Sheffield University Department of Architecture The allied societies of the Royal Institute of British Architects in the colonies will also nominate candidates. Finally, ten selected candidates will compete in London between September 15 and October 4, 1913.

Improved Elocution

An audition of members of the Poetry Society was held at the Holborn Restaurant when Mr. Robertson very justly pointed to the superiority of the French and the Italians over the Anglo-Saxon race in respect of an unaffected and accurate type of natural elocution. Even an Irishman or a Scotsman, said Mr. Robertson, has keener appreciation of the value of words than an Englishman, and he was anxious to impress upon teachers the desirability of encouraging their boys and girls to speak with ease and accuracy rather than to cultivate, as is so often done, the cheap and showy art of gesticulation. It is good to hear counsels of wisdom and moderationon a subjectof so great and general importance as good speaking from the lips of one who has been, for many years past, in the front rank of English public elocutionists.

New Phases of Education.

Colleges should not only train scholars but men and women who will become strong, self-reliant intelligent citizens.

BY HENRY STURGIS DRINKER, LL.D.,

President of Lehigh University, U. S. A.

Lehigh University was founded nearly half a century ago -in 1866-by a typical American —one of the people- a man of sterling force and integrity, great persistence of purpose, and marked individuality and strength. Asa Packer was one of the great developers of Pennsylvania's transportation and mining interests. He achieved deserved success, and, moved by a desire to make a return to his State and country for what had come to him,he founded at South Bethlehem, in the Lehigh Valley, adjoining the old Moravian Community of Bethlehem—in a region of great metallurgical mechanical, and mining industry at railroad centre, and within easy reach of the great coal regions of the State, and in the centre of what has since been developed as the home of the newer cement industry, an institution largly devoted to technical education. In doing this and in donating for this purpose over $3,000,000, Asa Packer not only made a valued contribution to the educational resources of our country, but he was a pioneer in the line of the men who, by great gifts, have, in the last fifty years done so much for the advancement of higher education in our country.

The earnestness and persistence of purpose characteristic of Asa Packer appear to have been impressed on the institution he founded and to have remained, and when I am asked now to speak of some phases of public education, I will refer to those which have been rather marked at Lehigh.

To achieve deserved and continuing success an educational institution must be so endowed financially that its work and attention can and shall be absolutely concentrated on and devoted to the character of its product and not led away into any relaxation of standard by desire to increase the size of the student attendance, either for the prestige of numbers or for financial considerations; the fact should always be in the minds of those in charge that the fees paid by students at colleges and universities charging even the highest rates never equal the actual cost of educational service, honestly rendered, the difference between the actual cost and the receipts for tuition being made up by income from endowment, and that efforts to increase the size of a student body beyond the number which the resources of the institution are adequate to thoroughly train are bound in the long run to disastrously reflect on the institution's standards and product.

Above all things educators should bear in mind that they are not only training scholars. Their more important duty is to train up men and women—strong, self-reliant, moral, intelligent citizens, not mere bookworms or doctrinaires. Their duty is as great to see to the body and soul welfare of their students as to train minds and develop brain power, the development of sturdy manliness and true womanliness is their highest duty. Lehigh is not coeducational, but we appreciate the great work that is being done by our sister institutions, and we pay our tribute of appreciation to them for their work in this regard.

We men and women do not always remember, that our younger brethren and sisters are but ourselves of years ago. We fight our life battles, and rarely win out by our own exertions or merits alone. How many would have fallen by the wayside but for the kindly and sympathetic, helping hand of friends at critical periods? Why should we set a higher standard of effort and achievement for our boys and girls? A wise alumnus of Lehigh, some years ago, in commenting at an alumni gathering on the condition and needs of the university, expressed the hope that in addition to maintaining our standards and seeking to attract good students, and to turn out well-trained graduates, we should see to it that a man, once entered at Lehigh, was given every reasonable aid and opportunity to stay there, and that our pride of achievement should rest not only in the maintenance of a high standard, but in the exercise of care and sympathetic oversight of men who, but for such care, might be dropped.

There is, as we all know, at all institutions a more or less developed system of outside coaching, intended to aid deficient students. At some places regularly organized coaching schools have grown up; the cost of this

supplementary instruction is generally high, and its results seldom permanently beneficial where it is applied as a cramming process to fit a student for passing a quiz or examination. It may enable him to meet the one test, but the stimulant is only temporary, and in the long run weakens the student's study power and is absolutely in antagonism to the steady study habit which alone can really avail. To meet this need we established at Lehigh what is termed our Conference Department. It is under the control of a teacher holding the rank of a full professor in the Department of Mathematics, who is assisted by competent teachers in physics, chemistry, and modern languages, our main underlying subjects. In this Conference School a sophomore or freshman who, from illness or other cause, has fallen back in his work, can obtain special instruction from a teacher who is teaching the subject in regular course, and who knows how it should be taught, and who can, and does, judiciously so extend aid and advice as not to weaken by overhelp, but stimulate the student's study power, and forward him in his work in the way the department in question wishes the subject studied. The work of the Conference School teachers, in regular classes, is lessened, so that this conference work is not an addition to, but a part of, the regular proper amount of service a teacher should be called on to render. The Conference Department sits from 7 to 9 on Monday Tuesday, Thursday, and Friday nights, at a charge of $1.50 for the four sessions, and sits from 2 to 4 on Wednesday and Saturday afternoons, (half holidays,) free of all charge. There is some similarity in purpose between this system and the preceptorial system at Princeton where the students are placed in squads under the care of designated tutors, and each system has its advantages. That at Lehigh has now been in operation for three years, and excellent results have been attained by this system of supervision and sympathetic aid extended to men who require it.

The proper management of athletics is a highly important duty. Mens sana in corpore sano should be uppermost in the mind of the educator. The health, comfort, and play of our students are all matters of vital concern. It is often difficult, especially with students taking strenuous courses in engineering, involving much work in the drawing room and laboratory to induce the hard-working student to take enough open-air exercise and to spend enough time in play to insure health and strength. On the other hand, there has been at some colleges the undoubted and existing abuse of over-attention to gladiatorial intercollegiate contests, with the attendant evil of the maintenance in college of men desired for their athletic ability, and held as students for that reason, despite the fact that their scholastic ability and standing do not warrant their admission or retention in college.

The game should be played for the game's sake, not solely for the credit of winning. Of all our American colleges, probably Haverford has been consistently first in the lead as the exemplar of pure athletics and the pursuit of pure sport for sport's sake. I say in the lead because, while in the number of her student body Haverford is one of the smaller colleges, she has maintained a prominent position in cricket, football, gymnasium, and track events, with absolutely no taint of professionalism, and withal with the maintenance of a high standard of culture and scholarship. Lehigh has never been accused of professionalism and the problem of how to better her athletic record, and to maintain her reputation for honest sport and a high standard of scholarship, has been a serious one. We believe that a logical solution has been found in a recent action, jointly taken by the Faculty and student body, as the result of a careful study of the situation by committees from both bodies. Lehigh is wholly committed to the theory and practice of student self-government, a student governing board, chosen by the student body, having jurisdiction and control of the operation of the honour system in recitations, and of all student matters involving the reputation and good name of the university, with power of inflicting punishment (subject to the approval of the Faculty) to the extent of one year's suspension.

The above committees united in the view that what was required was to bring out the material in college rather than to seek for it outside, and recommended that a reasonable amount of gymnasium or open-air exercise weekly be made compulsory on all students, and that scholastic credit be given for compliance with regulations so established. This recommendation was adopted,

and now, in addition to the usual requirement for systematic exercise from the fresh man class, the three upper classes are required to take regular exercise, and are credited on its proper performance with one term hour scholastically of the minimum number of term hours required to be accomplished to remain in college. This exercise may be taken, as provided by the regulations recommended by the joint committees and adopted by the Faculty, in gymnastic work, fencing, wrestling, basket ball, handball, bowling; all forms of out of door sports, such as tennis, baseball, football lacrosse, track and other field sports, cross-country runs, walks taken solely for the sake of exercise, skating, coasting, golf, boating, swimming and other sports and the result has been most satisfactory. The system appeals to those of us who have passed the active athletic period by the thought that our young men are voluntarily taking systematically as a body the open-air and the gymnastic exercise required for their health and for their maintenance in good physical condition to support their study power. It appeals to the student body, and naturally so, in that it unquestionably develops and brings out athletic proficiency in many a man who but for this system, with its scholastic credit, would not take part in athletic sports, and it thus supplies legitimate and welcome candidates for inter class and intercollegiate teams.

I trust that I have not been too prolix or personal in these notes. I have not written of our scholastic work at Lehigh, for I am justified in assuming that it is known to be honest and strenuous. I have written rather of what I have personally deeply at heart, the care of the health, moral and physical and the comfort and well-being of the young men whom it is the privilege of the educator to watch over and guard—a privilege as great as it is a pleasure beyond all estimate or price to those to whom this life duty is given.

H. S. DRINKER.

LEHIGH UNIVERSITY.

Our dear old mother.

It is a matter for regret that our grand old mother, Sanskrit, who was reigning supreme in our land for centuries together, has now completely retired from active service. She has already been grouped with the dead. Only a few years back, her dead body at least was within our sight. Some of her children, at least those who admit her, were reverentially handling the last remains of her. But today, even that dead body is taken entirely out of sight. We strain our eyes—we, the Madrasees—in all directions in search of our dear old mother's body, but, alas! it is not here; it has been removed elsewhere. Our educational institutions do not welcome even those last remains of our mother.

Though the School leaving certificate scheme seems to favour a little the study of Sanskrit, yet it does not offer a whole-hearted welcome. The compulsory study of the sister languages, the vernaculars of the place, does not give a free scope for the study of the mother language. In consequence, many of our High Schools have closed the Sanskrit panditship. In most of the institutions the pandits are given a new garb, in which they appear as the junior vernacular pandits, the senior ones being the original pandits. There is a considerable fall in the members of the Sanskrit scholars. Though our University is bringing forward its new scheme of examinations for titles like Srimani, it remains to be seen how far it is successful.

When such is the encouragement for Sanskrit in this part of India, we wonder why our old valuable works are collected and preserved at all. If no one is to direct his attention to the study of Sanskrit, who is to unlock the treasures buried deep in such collections? Even among those who made some progress in Sanskrit, there is a tendency to entirely neglect it, because it is not a paying concern. Why not our scholars reproduce in simple vernacular or English prose secret treasures to which only a fortunate few have an easy access? In this connection, we can not but thank the managers of the "Sruta Bodha" who have undertaken a great useful work in the translation of the vedas. Though there are one or two prin-

ting firms in our presidency it is not enough. Their work for Sanskrit is comparatively small.

If Sanskrit is to be encouraged at all it must be for enriching ourselves with a knowledge of the hidden treasures. We are sure we can not add any more to the original sanskrit works. Even if any one undertakes this task there are none to appreciate it properly. If only there can be a sufficient amount of appreciation of one's work—the best reward a writer longs for, many will come forward with their original productions prose or poetry. But now there is no use of crying over the spilt milk. It matters little if we can not produce anything original in sanskrit, but it is every thing for us to work now in an entirely different field. This field was first shown to us by the western scholars They are the pioneers in this field. It is the field of criticism and translation to which we should now turn our attention. It may be our western friends are wrong in some of their views. Malavika Agnimitram may as well be said to be a work not of Kalidas or the title of Mrichchaka may as well be imagined to have nothing to do with the drama itself but to have been derived from an unimportant episode in the sixth act. We should not take our western friends to task for such blunders. On the other hand, we should heartily thank them for the stimulus they have given us not the Madrasees, at any rate, since we are proof against such stimuli. We have this consolation that our Northern brethern, the scholars of Bengal and Bombay have responded to the stimulus. They are now welcoming our dear old mother with the love of begotten sons. Though we can do nothing for the present, let us at least hope for the time when Sanskrit learning will be revived with all its grandeur in our Presidency.

Saidapet, Madras. K. KRISHNAMACHARIAR.

Geri and Cisti.

(RENDERED INTO VERSE FROM BOCCACCIO'S DECAMERON).

"Look not upon the wine, when it is red ;
when it giveth his colour in the cup"—PROVERBS.

Come, come ; good wine is a good familiar creature, *if it be well used*—SHAKESPEARE.

"Look not upon the wine, when it is red ;
when it giveth his colour in the cup" Proverbs.
Come, come ; good wine is a good familiar creature, *if it be well used*--Shakespeare.

'Well done, Cisti, does it taste well or no?
Ask'd Geri.* Quicker than a flash, 'yes, Sir,
The wine is good in sooth, but how can I
Make you believe except you taste of it?
Taste it we do, but nothing wrong meseems.
That man in linen white, in doublet fine,
In breeches long an l apron neat, with cap
Of snow he more a miller looks. Though kind,
Though Fortune's friend, he is of base degree.
With plenty blest of Florence first and best,
Both white and Claret, he lives joyous, rich,
Not presumptuous. He plies his trade with care.
As morn by morn by Ughi's† church we pass
We see him set by door a bucket new
Of Adam's ale, a pot of Bólognâ
Brand new and bright, brimful of choicest wine,
With bumpers two with dazzling silver sheen,
And gulp a rouse or two as best him please.
A single draught will bid the dead lips smack.
Now it is noon ; the sun is hot and fierce ;
Our tongues are parched : our limbs all sorely ache
What harm to him or us if it we taste?
How sweet its smell, how sparkling red it is!
A glass drives cares and cools the heart and head.
The shy and weak it nerves to action prompt ;
The strong and hale to end what's well devised.
Fair Face, my friend, the Pope who holds me dear,
May count thee wise and fair, if with a sip
Inspiring truth we haste to his affair
That presses hard to have an instant close.'
'Well said, O G'ri, our Pope has none like thee
At once to think and act to make him great
Haste we, then, Messer Spine, and loose no time.'
Thither they draw ; a handsome bench is fetch'd,

* Messer Geri Spina.
† The Church of Saint Mario Ughi.

35. The only seat in reserve there ; they sit
And see the frolic brewer fill the glass,
Quite new and clean (none would it clean but he).
From forth a vial. They drink and smack their lips,
And out of fulness praise the host and go.
40. Oft does their errand bring them to the cot,
Oft does Cisti to them his store unlock,
And while their wasteful whiles in winsome ways.
The lords wind up their business soon, and turn
Their feet their homeward way. Then G'ri his friends
45. A sumptuous feast would give and them invites,
Citizens all of high and low degree,
Cisti not excepted. But he such state
And pomp would nowise have and keeps at home.
To him the gen'rous Geri sends his man
50. For wine, who enamoured of its repute,
In mind resolves to taste, by hook or crook,
What he should not for aye, a flagon takes,
And fares to Cisti. 'For me, no, not for me
That message that thou bring'st,' Quoth he.
The man
55. Says yea and fights for it, but all in vain.
To Geri Spine the man his steps does trace
And says nay. 'Back you go, assure Cisti
That I sent thee, and ask whither else I should.'
He does as he is bid. 'Marry,' he cried,
60. 'To Arno thou, that close by Florence runs
And sure thy flagon there thou mayest fill.'
This answer he to Messer takes, which opes
Alas ! his inner eyes. The flagon huge
He eyes, and chides the saucy fool to hie
65. With bottle small to him once more. 'Now, boy,'
Quoth he, 'true message this, and thou shalt have
With all my heart the bottle full of wine
Which he th'other day not meant for grooms declared,'
With half his store, the brewer follows him
70. And joins the festive throng of friends of Rome
And hobs and nobs all day with them, till sets.
The cycling sun on western marge. Debauch'd,
He bids adiew, goes home, and heavily snores.

Trivandrum. T. M. SATCHIT.

ARTICLES AND CONTRIBUTIONS
SPECIALLY USEFUL TO STUDENTS

Age of Johnson and the Romantic Reaction— 1740-1798).

(*Continued from Page 340.*)

Of minor novels and novelists, some may be mentioned. Horace Walpole's[1] *Castle of Otranto* dated 1764 is a romance moulded in mediaeval cast. William Beckford's[2] *Vathek* is fairly well-known and is a sort of extravagant story of exuberant fancy and many absurdities. Johnson's *Rasselas* (1759) may also be mentioned in this connexion, as a romance of the Prince of Abyssinia.

English prose never found a champion more earnest and more powerful than Dr. Johnson, the great dictator. "The child is father of man sang the poet ; and in Johnson's case, we find the truth this "aphorism" borne out. "In the child" says Macaulay, "the physical, intellectual and moral peculiarities which afterwards distinguished the man were plainly discernible ; great muscular strength accompanied by much awkwardness and many infirmities, great quickness of parts, with a morbid propensity to sloth and procrastination ; a kind and generous heart, with a gloomy and irritable temper." To quote Macaulay again : "He ransacked his father's shelves, dipped into a multitude of books, read what was interesting, and passed over what was dull. An ordinary lad would have acquired little or no useful knowledge in such a way ; but *much that was dull to ordinary lads was interesting to Samuel.*" (The italics are mine). Before he had left school Johnson had acquired enough Latin for a genuine scholar, though not much of Greek ; and by a curious decree, he stumbled upon a "huge volume of Petrarch's works," when looking out for apples ; and here his case differs from ordinary men who treat themselves to apples, when they should be looking out for Petrarch.

1. 1717--1797. 2. 1760—1844.

Johnson was essentially a prose-writer. He wrote poems, but they are as nothing compared to the great prose works which he contributed towards enrichment of the literature of his country. Among his prose works were *Life of Savage*, dated 1744, *Dictionary of English Language*, published in 1755, *Edition of Shakespeare*, published in 1765, *Journey to the Western Islands of Scotland*, produced in 1774, and *Lives of the Poets* (1779–81). In all these the critical acumen of the author appear in bold relief and this especially in *Lives of the Poets*. *Life of Savage* reveals an amount of partiality, hardly consistent with a strict judicial mind. His *Journey* contains, as Professor Saintsbury observes, "one immortal passage". *The Rambler* was in fact, a revival of Addison and Steele's 'Spectator.'

The general scheme of the Dictionary was published in 1747. The publishers advanced £1575 for the copyright. At the outset Johnson sought patronage and danced attendance on Lord Chesterfield, but was repulsed thence. Disgusted and soured by this unpleasant experience, he set about working singly and alone, and brought out his *Dictionary* in 1755. Chesterfield wrote eulogistic criticisms on this remarkable work, in 'the World.' It was now Johnson's turn. In a letter written in a singularly dignified and forcible manner, Johnson disowned all praises of the Lord, and expressed his sense of wrong, and insult, and his violent indignation. This letter remains unparalleled in literature, for its powerful irony, and suppressed biting satire. I cannot withhold the temptation of putting here, the remarkable letter, *in toto*, as an illustration of Johnson's elegant, dignified, forcible, and felicitous style. How the bitterest things may be said in the most dignified manner. Here is the letter:

" *7th February, 1755.*

My Lord– I have been lately informed, by the proprietor of the 'World,' that two papers, in which my Dictionary is recommended to the public, were written by your Lordship. To be so distinguished is an *honour, which, being very little accustomed to favours from the great, I know not well how to receive or in what terms to acknowledge.*

When, upon some slight encouragement, I first visited your lordship I was overpowered, like the rest of mankind, by the enhancement of your address, and could not forbear to wish that I might boast myself *Le vainqueur du vainqueur dela terre** ;—that I might obtain that regard for which I saw the world contending; but I found my attendance so little encouraged, that neither pride nor modesty would suffer me to continue it. When I had once addressed your Lordship in public, I had exhausted all the art of pleasing which a retired and uncourtly scholar can possess. I had done all that I could; and *no man is well pleased to have his all neglected, be it ever so little.*

Seven years, my lord, have now past, since I waited in your outward rooms, or was repulsed from your door; during which time I have been pushing on my work through difficulties, of which it is useless to complain, and *have brought it, at last, to the verge of publication, without one act of assistance, one word of encouragement, or one smile of favour. Such treatment I did not expect, for I never had a patron before.*

The shepherd in Virgil grew at last acquainted with Love, and found him a native of the rocks.

Is not a patron, my lord, one who looks with unconcern on a man struggling for life in the water, and, when he has reached ground, encumbers him with help. † *The notice which you have been pleased to take of my labours, had it been early, had been kind; but it has been delayed till I am known, and not want it. I hope it is no very cynical asperity not to confess obligations where no benefit has been received, or to be unwilling that the public should consider me as owing that to a patron, which Providence has enabled me to do for myself.*

Having carried on my work thus far with so little obligation to any favourer of learning, I shall not be disappointed though I should conclude, if less be possible, with less; for I have been long awakened from that dream of hope, in which I once boasted myself with so much exultation

My Lord,

Your Lordship's most humble, most obdt. servt.

SAM. JOHNSON."

(All Ita[illegible]lic italicised French, are mine).

The definitions given in this dictionary are singularly logical and comprehensive, though the etymologies are valueless. The explanation of this has been found in the fact that Johnson was ignorant of any Teutonic language other than English. The quotations, illustrating the definitions, are not chosen with scientific precision. To say the least of it, however, is to remark that this great work is useful to the 'linguist' as to the general reader. "And the most remarkable point about the Dictionary is, that it is not the work of a richly endowed society lasting over a number of years, but that it

* The vanquisher of the conqueror of the earth

† This sentence appears a bit confusing.

was completed within the short space of eight years, and by a single scholar who, constantly harassed by poverty and ill-health undertook the laborious work for the love of his language and that, considering its date and the imperfect state of knowledge then existing, it is the equal of any other work of the kind."†

From the letter just quoted, as well as from the preface of the Dictionary itself, we have an account of how Johnson made up his work. I give it in Johnson's own vigorous words: "It may gratify curiosity to inform it that the *English Dictionary* was written with little assistance of the learned; and without any patronage of the great, not in the soft obscurities of retirement or under the shelter of academic bowers, but amidst inconvenience and distraction, in sickness and in sorrow."

From the Leviathan of literature, I pass on to his biographer James Boswell.[1]

Johnson met Boswell in 1763. For the long period of twenty years, between this and the death of the first, there existed an unfailing bond of friendship between the two. It would be truer to say that Boswell looked up to Johnson with a degree of reverence and devotion more worthy of a disciple than of a friend. Indeed, the genuine devotion with which Boswell regarded Johnson, and which is reflected in the former's *Life of Johnson* drew from Macaulay the tannt of '*Lues Boswelliana*.' It is, however, a curious fact to note "that during more than the twenty years of acquaintance which subsisted between Dr. Johnson and Boswell, they had been in each other's company not more than 276 days."*

For us Boswell is the author of the *Life of Johnson*, which was published in 1791. It is a model biography and the biographer has become a celebrity himself on account of this work of his. Boswell's claim to distinction lies chiefly on his *Life of Johnson*, and its companion, *Tour to the Hebrides*, published in 1773. In this last work, Boswell has recorded his experiences of the tour which he had undertaken to the Hebrides with the great lexicographer.

In passing, mention may be made of the "Literary Club."—or "The Club", as it was latterly called. The wits and the intellects, of the last quarter of the 18th century formed themselves into a sort of corporate body, and met weekly in a tavern, where they passed hours in conversation and in wit-combats. Boswell, in his 'Life of Johnson' has a short history of this club, from which I take the following extract.

"Soon after his (*i.e.*, Johnson's) return to London, which was in February, was founded that Club which existed long without a name, but at Mr. Garrick's funeral (in 1779) became distinguished by the title of the Literary Club. Sir Joshua Reynolds had the merit of being the first proposer of it: to which Johnson acceded, and the original members were: Sir Joshua Reynolds, Dr. Johnson, Mr. Edmund Burke, Dr. Nugent Mr. Beauclerk, Dr. Langton, Dr. Goldsmith, Mr. Chamier, and Sir John Hawkins. They met at the Turk's Head, in Gerrard Street, Soho, one evening in every week, at seven, and generally continued their conversation till a pretty late hour. This Club has been gradually increased to its present number, 35. After about ten years, instead of supping weekly, it was resolved to dine together once a fortnight during the meeting of Parliament. Their original tavern having been converted into a private house, they moved first to Prince's Dover Street, and now meet at Parsloe's St. James' Street."

The chief prose work of Goldsmith remains his *The Vicar of Wakefield*, to which reference has already been made. His other prose-works are of no mean order. *The Citizen of the World*, published in 1763 was originally a series of isolated letters supposed to be written by a Chinaman, visiting Europe. Goldsmith contributed these letters to the 'Public Ledger'. They are remarkable for their delightful and healthy humour. Goldsmith also edited a weekly magazine—*The Bee* which ran for only eight months—date 1759. *An enquiry into the state of Polite Learning in Europe*, published by Dodsley in March 1795 is, as Black says in his 'Life of Goldsmith',"neither more nor less than an endeavour to prove that criticism has in all ages been the deadly enemy of art and literature, coupled with an appeal to authors to draw their inspiration from nature rather than from books, and varied here and there

† Thompson.

1 1740—1795.

* Becton's Dictionary of Universal Information.

by a gentle sigh over the loss of patronage." The *Life of Beau Nash* is a work of merit, though little known. Besides these he wrote *History of England*, *History of Greece* and *History of Animated Nature* for the the use of school-boys. Here, he was commissioned by a book-seller. In these works, Goldsmith revealed sublime ignorance of the subject; and it was Johnson who voiced the right opinion about Goldsmith's knowledge of natural history, when he (Johnson) said, "If he can tell a horse from a cow, that is the extent of his knowledge of Zoology." His knowledge of the other subjects was marked by similiar enormity.

Philip Dormer Stanhope, the fourth Earl of Chesterfield is the author of the celebrated *Letters to his Son*, which bears on its head the burden of "Johnson's criticism that they taught the morals of a courtesan and the manners of a dancing master." These letters may be said to be the ideal English letters. The son was illegitimate, and it appears that Chesterfield regarded him with genuine love. My lord's endeavour was to make an ideal beau of his son, who, however, did not appear to have much appreciated his father's labour. For their graceful and picturesque style, the letters remain unapproached in English literature. We find there living pictures of the contemporary fashionable society of ladies and gentlemen. They teach you how to wear the cravat, and how not to wear it; what angle must your head will make with your trunk, when bowing to a lady; and so on. And one singularity of Chesterfield, as observed by Prof. Saintsbury, is that devoted as he was to French, speaking and writing as easily as he did English, he never Gallicised his style like Horace Walpole, the author of 'The Castle of Otranto." The *Letters to his Son* was published in 1774.

In 1769, number of letters, subscribed as 'Junius,' appeared in the 'Public Advertiser.' The author of these are unknown, though everybody had his share of surmise. These letters attacked the king and the ministers,—especially Lord North and the Duke of Grafton. They evinced on the part of the writer, a thorough knowledge of the political situation of the time. But they remained unacknowledged. They have been, in turns, attributed to Burke, to Lord Temple, to Lord Sackville, to Pitt, to Chesterfield, and to Lyttleton, but everybody refused to own them. After all, people have agreed in their views, and 'Junius' is now identified with Sir Philip Francis *. Still the evidence, which attribute the *Letters of Junius* to Sir Philip, is wholly circumstantial and may, at any time, be superseded by a far more solid proof.

Philosophical and historical literature flourished to an important extent during the latter part of the 18th century. David Hume stands with one foot on Philosophy and the other on History. A member of Scotch aristocracy, Hume was utilitarian in principle. His chief philosophical works are *Treatise on Human Nature* (1739-40), *Essays, Moral, Political and Literary* (1741-42), *Inquiry concerning Human Understanding* (1748), *Inquiry Concerning the Principles of Morals* (1751), *Political Discourses* (1752), *Natural History of Religion* (1757), and *Dissertations* (1762). This is dry list, no doubt, but these works are really important. The elements of Hume's system of philosophy are embodied in his *Treatise of Human Nature* and *Inquiry Concernig Human Understanding*. His views were that utilitarianism is the best criterion of good and evil actions. Such sceptical beliefs, of course, gave pain in the orthodox minds.

Besides the philosophical works, Hume was also the father of the scientific treatment of history in England. "The pioneer of historical writing in England," says Thompson, "was David Hume." His was indeed the first literary history in English language. Hume is far from being exact and accurate in his *History of England*, which saw the light in 1754; and many documents which has since been laid open and utilized were absolutely unknown at the time, when Hume wrote. It may be stated here, that Macaulay began his 'History of England,' just at the point where Hume left. Of Hume's style, it may be said that his English is the purest form of it ever produced, because he revised, re-wrote and corrected his manuscripts, so much. He laboured hard over his lucubrations, until he was satisfied with their perfection.

Of the other philosopical writers, there

* A member of the Governor General's council in India during Warren Hastings' time, and a bitter opponent of Hastings.

were Edmund Burke, Adam Smith, and William Paley.

Burke's chief works are *Thoughts on the Present Discontent* (1770). *The American Speeches* (1773-75), *Reflections on the Revolution in France* (1790) and *Letters on a Regicide Peace* (1796), of which *The Reflections* stands pre-eminent. This work is a good treatise on political philosophy. It is a letter to a certain French gentleman, wherein the writer has criticised and violently condemned the works of Revolution society and of constitutional Society, both clubs, holding up revolutionary views. In passing, Burke touches many of the general topics of political science. The powerful arguments, and the intense sincerity pervading the utterances, at once took the public mind. This work was immediately followed by *Letter to a member of the National Assembly* in 1791 and *An Appeal from the New to the Old Whigs*, in 1792, both virulent types of condemnation. In his *Letters on a Regicide Peace* Burke strongly opposes any settlement or compromise with France, and advocates war as the only arbiter of the destiny of the two contending nations. In 1794, Burke received a handsome pension, and would, most probably, have accepted the peerage, which was offered to him, had not his son died at that time. He retired only on a pension, which was the occasion of some controversy, in which the Duke of Bedford made some unjust remarks on the pension proposal, which were very successfully refuted in Burke's *Letter to a Noble Lord* in 1796. His two early works published in in 1756 may also be mentioned. They were *A Vindication of Natural Society*, an irony ... st Bolingbroke Bolingbroke's own style, and *A Philosophical Inquiry into the Origin of our Ideas on the Sublime and Beautiful*, a work of aesthetic criticism. Burke's speeches on the impeachment of Warren Hastings remain a splendid illustration of his rhetorical powers. Burke was a politician, a political philosopher and an orator,—all at once. His style was charming. In course of his writings, he sometimes waxed poetical and set off his compositions with gorgeous imaginative pictures. What reader of the *Reflections* can refuse to be fascinated by Burke's gorgeously eloquent passage on Marie Antoinette. Burke is sometimes prophetic in his utterances, and the truths of many sayings in the *Reflections* and the *American speeches* are verified by future issues. This shows his solid political wisdom.

Adam Smith may be said, in some sense, to be the founder of the science of Political Economy on account of his *Wealth of Nations*, which belongs to 1776 His other work on metaphysics, *Theory of Moral Sentiments* (1759) is a series of lectures, delivered from the Logic chair of Glasgow University. Paley's chief philosophical works are *Moral and Political Philosophy* (1785) *Evidences of Christianity* (1794), and *Natural Theology* (1802), which have gained him great fame.

Before parting with the prose literature of this period, some remaining work should be mentioned. These are Gilbert White's *Natural History of Selbourne*, *Commentaries on the Laws of England* (1765), Malthus' *Essay on Population* (1798); and lastly Sir Joshua Reynold's *Discourse on Painting* (1778). William Cowper, the poet, was a good letter-writer. His *Letters* have something of simple domestic interest.

Towards the beginning of the present discourse, I have referred to the fact of the romantic spirit emerging out of the classical atmosphere, and of the appreciation of the older poets by the naturalists of this period This naturalness is, however, only the usual outcome of the artificial spirit and style imported from France, during the Restoration period. In the present age, the chief of the poets, who most successfully anticipated the coming romantic writers are James Thomson, William Collins, and Thomas Gray.

Thomson's typical works are *the Seasons* (Winter 1726, Summer, 1727, Autumn, 1730) and *the Castle of Indolence* (1748). It has been mentioned before that Thomson made himself felt, when Pope was in the height of his glory. He rebelled against the prevalent fashion of the time, both in ideas, as well as in style. This spirit he never forgot. He looked straight at Future, entered into her mysteries and translated his ideas in apt words and phrases. These remarks are illustrated by *The seasons*, which will always be read with delight and admiration. *The Castle of Indolence* is entirely of a different sort. It is an allegorical poem, where the influence of Spenser is cleary discernible. Written in Spensarian metre, the poem is remarkable for the melody of its versification and picturesqueness of its descriptions.

"It is impossible to exaggerate", Says Prof Saintsbury, "the beneficent influence which *The Castle of Indolence*, must have had in soothing, relaxing, and adjusting to true poetic feeling, the ears and mind of a generation made half-deaf and half nervous by the sharp scratch and rasp of the couplet".

Collins was a romantic, born only in an age too soon. His credit rests mainly on his *odes*, of which *ode to passions* and *ode to Evening* have been pronounced to be his best compositions. He foreshadowed the romantic spirit, both in ideas and in versification. But he is artificial in his diction, which sometimes gives his poetry a prosaic taste. But his odes have splendid imaginations, though sometimes rising to conceit. Besides the odes, Collins wrote *Persian Eclogues* 1742 and *ode on the Superstition of the Highlands*, which was first printed in 1780.

Gray, too, wrote splendid odes. But his *Elegy written in a Country Church-yard* remains his chief—in fact, the chief production of the type. This small work alone was sufficient to make Gray immortal.

Collins and Gray, however, did not write much. And as Dickens remarks of Gray,—no poet has gained immortality with so small a volume under his arm—we may say the same of Collins, too. The essential difference between these two eighteenth century "Naturalists" is that Collins is a lyric poet, while Gray is famous for his elegy. Each has his strong point, in which each is a specialist.

Thomas Chatterton lived near the church of St. Mary Radcliffe. In a parvise chamber of the church-building, there were a number of chests, containing old documents. These old documents inspired Chatterton with an idea of forging a series of valuable manuscripts, which he gave out to have found in one of the strong rooms of the church. He had some knowledge of black-letter and he was a poet, of some reputation, already. He was only twelve at the time. He manufactured manuscript after manuscript, and sent them to the press, pretending that they were compositions of fifteenth century by one T Rowley. By such forgeries he deceived many, among these being Horace Walpole, to whom Chatterton sent some so-called manuscripts about the painting of middle ages, when Walpole was writing *Anecdotes of British Painters*. Walpole gladly accepted the help and promised him his assistance in his antiquarian pursuits. Encouraged by this, Chatterton sent him some more such mss., which when submitted to Gray, could not impose upon him. He discovered the *modus operandi* of the ambitious poet and pronounced the Mss. as spurious. Thus discredited Chatterton could no longer regain the estimation of the public, which he had lost and disappointed he put an end to his life by a dose of arsnic on the 24th of August, 1770. The chief of these so called Rowley mss. were *Ella*, a tragedy, *The Dethe of Syr Charles Badwin*, also a tragedy, and *Turgot's Account of Bristol*, translated by T. Rowley out of Saxon into English. James Macpherson is another forger of somewhat similar description. In 1759, he exhibited some celtic fragments, which, he said he had found in the mountains of Highlands, and which he published in 1760, as *Fragments of Ancient Poetry*. Emboldened by the success of his first venture, he published a translation of the poems of Ossian, which he declared to have been in original celtic mss. In 1762, Macpherson published *Fingal*, and in 1763 *Temora*, both given out as epics of the third century. These latter were the results of his so called labours among the antiquities of Highlands, which he had undertaken at the request of a member of Scotch *literati*, with the help of a fund, supplied by them. Macpherson's forgeries, however, were discovered early by Dr. Johnson; but he could not make himself heard owing to the importunities of the Highlanders in refusing to disbelieve the authenticity of these mss., which contributed to the honour of their country. The importance of these forgeries lies in the perception of the romantic element in the ancient poetry, which both Chatterton and Macpherson so impersonally imitated. They were in this, the "harbingers of the romantic movement"

Thomson was alive to the external beauties of nature, more than to the internal and he gave us a recipe for manufacturing flowers. In this respect, he was different from Wordsworth who appreciated the spirit of Nature and identified her with the Highest Being So that, while Thomson only struck the firs blow against the classicism Wordsworth followed it to the lair and killed it outright William Cowper, George Crabbe, William

Blake and Robert Burns are the connecting link, and a normal transitional stage between Thomson and Wordsworth.

Cowper's was a life of tragedy. Left motherless at a tender age, his life was almost a blank, until he came under the influence of the friendly Unwins His mind was unhinged, and he had more than one attack of melancholia. He had also a natural delicacy and sensitiveness of mind, which made him unfit for any ordinary pursuit of life. His first poems were the Olney hymns, published in 1779 *John Gilpin* is a poem of genuine humour. But the greatest work of Cowper is undoubtedly *The Task*, published in 1785, and written at the request of a friend, Lady Austin, who asked the poet to write something. On the poet's demanding for a subject, the lady said, "you cannot be in want of a subject, write on this sofa (pointing to the sofa on which she was sitting); and Cowper set about and produced the great work. *The Task* is a collection of descriptions of the country life, landscape etc—in fact, all sorts of homely things that came to the notice of the poet. In these, there is a quiet appreciation of the beauties of nature in herself. Making due allowances for all I venture to think that no poem has ever surpassed Cowper's *On the Receipt of my Mother's Picture* in point of pathetic interest. Indeed our sympathy goes down to the "dupe of to-morrow, even from a child." Does not this line speak volumes about the mental condition of the poet. Does not the line give us a glimpse of the poet's heart, which is an absolute blank "even from a child." *On The Receipt of My Mother's Picture* is wet with tears through and through and no one can doubt the sincerity of the man who shed them.

Crabbe was the poet of the poor life. He observed the lives of the poor men around him which aroused in him just indignation and he viewed the world pessimistically. His chief works are *The Library* (*1781*), *The Newspaper* (*1785*), *Village* (*1783*), *Parish Register* (*1807*) *Tales of the Hall* (*1810*) and *the Borough* (*1810*). In all these the poet records his experience on poor life. "William Blake is one of the eccentrics of poetry; it was never his chief business, which was that of a painter, or his chief hobby, which was that of a seer."† In Blake there is a commixture of the past Elizabethan influence and the romantic influence around him. His chief works are *The Political Sketches* (*1777*), "The new study of Elizabethan poets," *Edward III* a reminiscence of Marlowe's outburst in 'Edward II', *To the Muses*, a lyric advocating the older passions in poetry, *Songs of Innocence* (1789), and *Songs of Experience* (1794), anticipatory of 'Lyrical Ballads'. Blake also wrote some ballads, which betray the influence of Macpherson's *Ossian*.

This takes us to Robert Burns, whose love-songs so successfully copy the simplicity and the melody of the Elizabethan poetry. Burns was born in a poor family and his position quickened in him an enthusiasm for humanity, and he sang the poor. The best of his poems are *Tam O' Shanter*, *Jolly Beggars*, and *Mary in Heaven*; the first two of which are remarkable for their broad and refined humour, and the last is appealing for its pathos. Burns was a Scotchman and he wrote for Scotland; but still all he wrote was characterised by a breadth and universality of view, which was instinctive in the "Ayrshire plowman".

Goldsmith's *the Deserted Village*, published in 1770, and *the Traveller*, published 1764, are known to all school-boys. For the idyllic beauty they display, for the faithful and the life-like descriptions they give us, these two poems have imprinted themselves in our memory. Goldsmith's *Retaliation* is a reply to the witty epitaphs on Goldsmith, which his friends at the Club, composed extempore, and to which Goldsmith could not give ready reply. That was his defect and Johnson said, in course of the above-mentioned combat,

"Here lies Nelly Goldsmith, for shortness called Noll
Who wrote like an angel but talked like poor Poll."

AJAX.

† Saintsbury.

CONTRIBUTIONS FROM STUDENTS

The Claim of Philosophy as a Subject of Study.

Before discussing the claim of anything we should see what the thing itself is. What is Philosophy? Renowned Philosophers have defined it in different ways.

But, the words Philosophy and Science have been so intimately but indifferently used *e.g.* Moral Philosophy and Ethical Science, Political Philosophy and Political Science

Mental Philosopy and Mental Science that it is essentially necessary to distinguish one from the other.

The work of Science is to explain and make us understand the various departments of the world separately, *e.g.* animals, plants, stars, minerals etc. But Philosophy pursues its work in a different way from Natural Science and put together the results of the various sciences and endeavours to give us an understanding of the system of the world as a whole.

"In the traditional and narrower sense of the word," to quote the words of Dr. Marvin, "Philosophy is the study of the fundamental problems before the human mind and the endeavour to bring an ultimate harmony in all human thought and action." "Philosophy is is an enthusiasm, a love for truth and the Philosopher is he whose life and thought are controlled by this mightiest of loves. Truth is his mistress and to be faithful to her in thought, word and deed, is the devotion that alone seems to him meet and right. His work is to harmonize, to make consistent the lives of fellowmen whether it be in their thoughts, or their words, or in their deeds. Philosopher is the word's peace maker. He who brings peace out of discord is a Philosopher, no matter where his work may be."

The work of Philosophy is reflective. It is an analysis of the results of human searching after truth and in general of all human activity. It searches for inconsistencies and tries to remove them. It finds fault not for the sake of finding fault but in order to regain consistency. Naturally then, Philosopher's work is chiefly in his library. It is there through the reports made to him by the Scientists that he gets the information on which he bases his conclusions.

Philosophy presupposes Science; Science aims at Emperical truth. The truth that Philosophy aims at, is an ideal toward which the reason of man is ever striving. It aims at such a truth which embraces Ontology. Suppose, mango falls from a tree; Science will at once aaswer the question why? and say it falls on account of the Law of Gravitation. But Philosopy will ask what the Law of Gravitation is. Man is Mortal, Socrates is man, therefore, Socrates is Mortal—the Logician will remain satisfied by drawing this inference, but the Philosopher will ask what Mortality itself is.

The aim of the Artist is to make the thing beautiful and charming but the Philosopher, with and through the help of the materials supplied by the Artist, endeavours to know the beauty of the Supreme Being who has made the objects of these arts. A layman will think of the good of the individual or of the Society, but the Philosopher will think of the world as a whole; and therefore Hegel rightly defines Philosophy as the Science of the Absolute. The great problem of Philosophy is to find out the cause of causes; Science gives a crude idea of causation. Philosophy works upon it and tries to find out its inner significance and crystallizes that idea in a fine conception.

Science is the first interpreter of facts revealed, Philosophy enlightens those interpretations by a fuller conception of reality. Philosophy does not only interpret those that are revealed but also goes deeper and explains even those which will never be revealed in the Scientific sense, e. g. Soul.

How vast, how varied, how magnificent Nature is! Innumerable are the constituents that compose the creation, varied are the elements—dead, living and conscious—and peculiar and marvellous are the laws of Nature. Subject to impressions as the human mind is the profound and perplexing workings of Nature exercise a stronghold upon it. Man has an instinctive desire for knowledge and truth. When a child first sees the light of this world he makes a cry, as if enquiring something about his new position in this world of ours; and as he grows older he becomes more and more inquisitive and increases his knowledge as the days roll by. The period from the womb to the tomb, from the cradle to the grave, is a period of sojourn to study the Soul, Nature and God. He tries to acquire knowledge about things both phenomenal and real, seen and the unseen, material and mental, Nature and God. This inclination towards the attainment of knowledge of himself, Nature and God is the way to self-perfection and this exhaustive, comprehensive, all-embracing and harmonious knowledge is Philosophy. The latent and inherent eagerness and hankering after knowledge leads him to seek truth about himself, Nature and God.

In the first instance, the impression forced upon him by the external world convinces him of the presence of some objects outside;

these convictions tend to make him extend the realm of his knowledge so as to embrace not only objects outside but his own self as a receiving subject. This gradual development of self-examination convinces him that he is endowed with certain inborn tendencies and capacities of thinking, feeling and willing; this partial knowledge of self gives him partial satisfaction and the earnest desire to attain truth and knowledge about external and internal [illegible] stimulates him to go farther. He remains uneasy and dissatisfied till his mission is fulfilled. This discontent, with his insufficient knowledge of Nature and himself, forces him to seek some real and ultimate substance.

The various kinds of arts and sciences being concerned with appearances and manifestations only, each is incomplete and insufficient in itself without a study of the real and ultimate subsiance, and this complete, comprehensive and unified knowledge of ultimate reality with its varied appearances is Philosophy. The study of philosophy, therefore, naturally follows from the eagerness of mankind in general. Hence the claim of Philosophy as a subject of study is not only worthy and proper but also delightful and charming as it attains more complete truth and thus satisfies human thirst after knowledge.

Each department of experience, each experimental science studying a department of created things, each activity of the mind exerted in the investigation of certain manifestations and appearances, is blindly and hopelessly incomplete because of its incapacity and reluctance to go beyond the scope of experience and to trace the origin from some mysterious, latent and ultimate reality. Hence the study of each science gives incomplete knowledge. Therefore, the claim of Philosophy—a comprehensive and all-embracing knowledge of all things and realities - is evident. And Philosophy is the study not of one aspect of experience, not of one province of things manifest to experience only, but a combined, complete and comprehensive study of manifestations and realities, appearances and substances, the seen and the unseen.

According to this view then, there is no province of human experience, there is nothing in the whole realm of reality which is beyond the domain of Philosophy or to which philosophical investigation does not extend. It seems then, that only in Philosophy can the mind hope for satisfaction in its pursuit of complete knowledge of man, Nature and God, and we can rightly assert that such a subject is and will be the noblest study of every rational being.

JATINDRA NATH MUNSHI.
Student, St. Columba's College, Hazaribagh.

Glass flowers in the Harvard Museum.

One of the chief attractions for the visitors of the Harvard University U. S. A. are the wonderful glass flowers in the museum of Comparative Zoology. Throughout the year numbers of men and women come to Cambridge only to see the flowers of which they may have heard from their friends and relatives. I personally had experiences of several people who came to see the glass flowers and asked me to show them the way to the museum that contained them.

These artificial flowers are exquisitely beautiful, and they well deserve the great reputation which attracts so many people to Cambridge. When I first went to see these flowers I passed all round the museum and came back disgusted not knowing where to find them. The fact was that I saw the flowers but could not distinguish them from natural ones. I thought they were real specimens of leaves and flowers in the Botanical department. But to my utter surprise I came to know from my friends the next day that the flowers which I took to be natural were really artificial flowers made of glass.

Probably I was not the only person to be thus mistaken. There must have been many others who were in my position. It is certainly impossible, at first sight, to tell these glass flowers from natural ones—so real they are in appearance.

I have heard that these flowers are found in America only in the Harvard Museum. They have been imported from Germany at very high costs. It is said that there is a German firm which alone knows this wonderful art and that it has kept this art secret from all other people. If it be so, it must be a great loss to the world. With the passing away of the artist the art will be dead. We are sadly reminded by this fact of the like disappearence of many wonderful industrial arts from the face of the earth.

B. K. S.

SCIENCE NOTES AND OTHER INTERESTING ITEMS.

The Americans are supposed to be up to date, and the French are generally credited with a certain amount of ingenuity, but the Belgians have just founded a company whose originality will be hard to beat This is the "Umbrella Lending Society." which would have been eminently welcome in Paris. The company has a capital of several million francs and half as many umbrellas, and its object is to save people from the trouble of buying and carrying these occasionally useful but cumbersome articles about when not in actual employ.

Umbrella Lending Company

Subscribers pay four shillings a year, and are given an aluminium counter with a number. It is much easier evidently to carry a counter than an umbrella. If the subscriber is caught in the rain all that he has to do is to go into the nearest restaurant, tobacco shop, or big store, and in return for his "fiche" he is immediately furnished with a respectable umbrella. When the sun comes out again he enters the first similar establishment and deposits his umbrella in exchange for another counter. The system is simplicity itself—until some ingenious swindler casts facsimile counters and surreptitiously sells them for half-a-crown.

It has been said that electricity has the power of assisting the development of the human body mentally no less than physically. Now a French Professor, Professor Bergonie of Bordeaux, has reported a successful experiment he has made, which reveals another extraordinary use to which electricity may be put. 'If a man is hungry,' he says, 'give him electricity. If he asks for bread or a beefsteak, put him in an electric chair and turn on the current.' By this means, it seems to us, food can be replaced by electricity, for the professor says that low tension and high frequency electric currents have the same effect in producing interior warmth as meat and bread. This, we are told, can be used with advantage without any injurious effect on the digestive system.

Electricity as food

The papers made a feature of Professor Shaefer's address before the British Association on the 5th inst. foreshadowing artificial production of life. He contended that his research indicates that the dividing line between the living and the non-living substances is not so sharp as has hitherto been supposed. Both are governed by same laws. The cell life has no complex constitution. The chemical reproduction of its material is a matter of time.

Artificial Production of Life

"La Nature" contains a curious account of a new kind of glass: 'triple glass' which will crack but not break. You can drive a nail into it and though the surface is all "starred" yet none comes away The idea is good for motor-cars and windows in towns where suffragettes abound. One illustration shows a pane of glass at which fourteen stones were thrown,—not one went through it (they were not thrown by suffragettes). The process consists of taking two sheets of glass and giving one side a thin coating of gelatine. The two coated sides are then placed gelatine to gelatine with a thin film of celluloid between them and subjected to hydraulic pressure. The result is that the glass is as transparent as it was before but its solidity increased. Why? is not clear but the fact remains that experiments have shown that brittleness is eliminated.

Triple Glass

Dr. W. Von Bolton has been trying to grow diamonds. At a recent congress of the German Bunsen Society he described the decomposition of illuminating gas under the action of sodium amalgam, which precipitated the carbon in the form of black coal and, it seemed, of diamonds but these were in too small quantity to permit of analysis. Dr. Von Bolton determined to obtain a greater quantity by making diamonds grow on some mother substance.

Diamonds from illuminating gas

The Scientific American says he placed 50 grams of 14 per cent. Sodium amalgam in a long testing tube and coated the upper layer with a diluted water-glass solution, over which he spread amorphous diamond powder. The tube was kept at a temperarure of 100 degrees centigrade in a water bath, after which a slow current of moistened illuminating gas was introduced. The amalgam was allowed to give off its mercury vapor for one month, when very little black carbon had been separated, but on the layer covered with diamond powder many particles of high brilliancy were found

The contents of the tube were boiled in a platinum crucible with a mixture of fluoric

and sulphuric acids The microscope revealed that the amorphous powder had been converted into brilliant crystals, true diamonds, still too small however to allow of analysis.

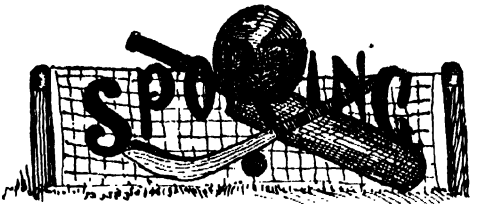
Comparative Illiteracy

Only three persons out of ten thousand in Germany are unable to read or write, while the proportion of illiteracy in Great Britain is 150 per 10,000 as against 770 per 10,000 in the United States. These figures are based on a comparison of illiteracy among some of the leading nations which has just been made and issued by the United States Bureau of Education. The American figures include the entire population over ten years of age, while the German figures cover only the army recruits and the British statistics are based on data drawn wholly from official marriage registers. Hence the German and British statistics deal only with adults, and generally speaking with physically and mentally normal adults, while the United States census includes without discrimination everyone above the ten-year age limit, even coloured folk.

How can India, the land *par excellence* of illiteracy, be placed at all by the side of the above countries? What a grave national reproach this is to us—and to our Government.

Snakes as Household pets

It has been suggested by a French professor that every household should have its snake instead of its cat or dog for the purpose of keeping rats or mice away. It is not new, says "Fireside and Farm" (U. S. A.), for in the days of the Romans many snakes were kept by the house-keepers for precisely this purpose. Since those early times, however, the houshould reptile has been supplanted by the cat or dog, and the modern housewife as a rule has nothing but revulsion of feeling for every species of snake, harmful and harmless The hostile attitude towards snakes, however, is largely due to ignorance. Thus it is commonly supposed that snakes are slimy. As a matter of fact, they are not. Their skin is cold to the touch, but absolutely dry. The principal disadvantage about a cat or dog is that these animals are apt to carry the same disease-spreading vermin as the rats and mice they are supposed to destroy. Both the dog and the cat frequently kill rats and mice without eating them, leaving them to decompose in invisible places. Every rat killed by a snake is at once swallowed. The snake, too, is much cleaner than either of the other household pets.



BOMBAY CRICKET. (Quadrangular Fixtures).

1. Parsees vs. Hindus. Hindu collapse.

The match which started on the 9th instant at 11-30 saw all Hindus out at 12-55. The Hindus were all out for 64.

The Parsees started their first innings at 1-15 and by 5-35 they were all out. The total score of the Parsees was 183 runs. (Warden 115).

The Hindus started on their second venture shortly after 11-30. Disaster followed disaster and at 1-35 the match came to a close, the Parsees winning by an innings and forty runs, the Hindus scoring only 79 runs in their second venture.

2. Presidency vs. Mahomedans, Mahomedans win.

The Presidency started shortly after 11-30 on the 12th instant. The innings terminated at 1-55 for 101 runs. The Mahomedans went in at 5 p. m. to commence their innings. Stumps were drawn at 6 p. m. when the Mahomedans score stood at 131 for nine wickets. Mahomedans resumed their innings at 11-30 on the 13 instant when they could not add any run to the over-night's total. The Presidency started their second innings at 11-45 and repeated their collapse of the previous innings the innings was brought to a close at 1-50 p. m. for 104 runs. The Mahomedans had little difficulty in winning this match by seven wickets obtaining the necessary runs after ninety minutes batting and closed the play with 3 wickets for 75 runs.

3. FINAL. PARSEES VS. MAHOMEDANS. PARSEES WIN.

The Parsees won the Quadrangular Cricket Test by the big margin of an innings and 177 runs. The Mahamedans collapsed in both their innings —1st innings—86 runs, 2nd innings—70. The Parsees made 333 in the first and the only innings.

ENGLISH CRICKET.

The position of the teams for the county championship is given in the list calculated up to date.

	P.	W.	L.	In.	In.	Pts.	Obdt.	
Yorkshire	23	12	1	7	3	115	84	73.04
Northmpton	17	10	1	2	4	85	60	70.58
Kent	23	14	5	2	2	115	78	67.82
Lancashire	16	7	2	4	3	80	50	62.50
Warwick	15	6	2	3	4	75	43	57.33
Hampshire	16	6	3	4	3	80	45	56.25
Middlesex	15	6	4	3	2	75	41	54.66
Notts	17	5	5	4	2	80	39	48.75
Surrey	19	5	5	6	4	95	44	46.31
Sussex	24	5	10	5	4	120	44	36.66
Derbyshire	13	2	7	2	2	65	18	27.69
Gloucester	11	3	8	0	0	55	15	27.27
Somerset	13	2	7	1	3	65	16	24.68
Leicester	19	3	12	2	2	95	23	24.21
Essex	13	1	7	2	3	65	14	21.53
Worcester	15	1	9	0	5	75	10	13.33

BOMBAY RUGBY TOURNEY.

The final round in connection with the Gymkhana Rugby Tournament was brought to a most exciting and interesting close on the 7th instant on the Oval, when Madras met the West Ridings. The greatest excitement provailed, both teams playing for all they were worth. The match ended in a very popular win for Madras by ten points to three. Mrs. Marshall Reid presented the cup to the winners. Both winners and runners-up were heartily cheered.

MADRAS. Inter Collegiate Tournaments.

HOCKEY. The Wesley and Medical College played their fixture in the first round in which the Medicoes won by 3 goals to one.

FOOTBALL. Wesley College beat the Pachaiyappa's College of 1 goal to nil.

Christian College Boys beat the Pachaiyappa team by 1 goal to nil.

Presidency College defeated the S.P.G. High School Boys by the small margin of 1 goal to nil.

CUTTINGS.

Origin of the Himalayas.

Colonel Burrard, C. S. I., R. E., F. R. S, Surveyor General, delivered a lecture at a meeting of the Astronomical Society, Calcutta, on the origin of the Himalaya Mountains, and he has now amplified this lecture into a professional paper of the Survey Department adding a consideration of the geodetic evidence gathered in support of this theory. The paper as it stands is in a very technical form but its object is to show that the plumbline and pendulum observations which have been made in India exhibit a condition of the earth's crust which is inconsistent with the interpretation of the formation of the Mountains of Asia, which has, at different times, been advanced by eminent geologists. Recent geodetic observations geodesy, it may be explained, is a science whose object is to measure the earth and its parts on a large scale) have brought to light the existence of an extraordinary deficiency of Mass underlying the alluvial belt situated immediately to the South of the Himalayas.

AN INVISIBLE TRENCH.

These mountains rise suddenly out of flat alluvial plains and the plumbline observations show that all round the base of the mountains there is a deficiency of matter resembling a deep invisible trench There seems nothing extravagant in the idea of such a crack. If we ourselves were to construct a solid globe of heterogenous materials (differing in density, conductivity and co-efficient of contraction) and were to heat it we should not be surprised at seeing it crack as it become hotter, and if when it was very hot, we allowed it to cool, we should not be surprised at seeing it crack as it cooled down. This is what Colonel Burrard is disposed to regard as having occurred. He believes that the sub-crust of the earth has cracked and that one long crack exists stretching from Sumatra, round the Arrakan Coast across Northern India through the Persian Gulf to the Mediterranean and that the northern edge of the crack has been and is still at intervals forced northwards and upwards by strains and deformations.

SIWALIK AREA RAISED 5 INCHES.

In April 1905 the well-remembered earthquake occurred at Dharmsala and its effects were felt at DehraDun nearly 200 miles distant. A line of precise levelling had been carried from the plains across the Siwalik area into the mountains at Dehra Dun shortly before the earthquake. After the earthquake this levelling was revised from Saharanpur to Mussorie and this revision showed that the whole Siwalik area (breadth 25 miles) had been raised 5⅓ inches. The earthquake may be attributed to a real uplift of the earth's crust and it has been calculated that at least 5,003 square miles were uplifted over the area skirting the northern edge of the supposed crack the uplift at Dharmsala being probably much greater than at Dehra Dun. The hypothesis is then that in some remote age when the earth was changing its temperature an enormous crack occurred in the subcrust that the surface towards the north wrinkled (in other

words formed the Himalayas) that the crack itself became filled with alluvium (hence its low density) and that on each successive occasion of small cracks in the original great rift there has occurred a shrinkage of the surface towards the north and a further uplift of the wrinkled crust.

THEORIES FOR ARGUMENT.

This theory is not universally admitted and the points which the author submits for the consideration of geologists are :—(1) Guess's theory that the mountains of Asia are earthwaves moving southwards and being stopped by the ancient fragment of rock i.e by the Indian Peninsula. The author says there is no basis for this theory, no grounds, no evidence and asks what is making these earth waves move south and how deep do they go below the surface. (2) There is no doubt the Himalaya Mountains are largely compensated by underlying deficiencies of matter. This is proved by the fact that if you hang a plumbline up 30 to 50 miles from the foot of the hills the mountains have no attractive effect whatever. Geologists do not explain this and Guess merely expresses doubts about the observations. 3) A great disturbance of the plumblines is found at the very foot of the mountains. Here the disturbance is very sudden, within 20 miles of the foot-hills the plumblines suddenly begin to be deflected towards the hills. There is nothing at the earth's surface to explain this and the plumblines behave as though a subterraneah channel existed. (4) According to the laws of gravity Himalayan attraction should be large at Kalka and should gradually get less and less its effects finally disappearing about Ceylon In actuality the effects have entirely disappeared at Lahore, Delhi. Lucknow and Calcutta. Nevertheless the decrease in the observed efforts between Simla and Ambalia and between Darjeeling and Jalpaiguri is much more sudden and more marked even than if Himalayan attraction were acting in its uncompensated entirety.

Mathematical Minds.

It affords an interesting study, said the president Sir George Darwin at the International Congress of Mathematicians held this year at Cambridge, to attempt to analyse the difference in the textures of the minds of pure and applied mathematicians. I think that I shall not be doing wrong to the reputation of the psychologists of half a century ago when I say that they thought that when they had successfully analysed the way in which their own minds worked they had solved the problem before them. But it was Sir Francis Galton who showed that this view is erroneous. He pointed out that for many men visual images form the most potent apparatus of thought, but for others this is not the case. Such visual images are often quaint and illogical, being probably often founded on infantile impressions, but they form the wheels of the clockwork of many minds. The pure geometrician must be a man who is endowed with great powers of visualisation, and this view is confirmed by my recollection of the difficulty of attaining to clear conceptions of the geometry of space until practice in the art of visualisation had enabled one to picture clearly the relationship of lines and surfaces to one another. The pure analyst probably relies far less on visual images, or, at least, his pictures are not of a geometrical character. I suspect that the mathematician will drift naturally to one branch or another of our science according to the texture of his mind and the nature of the mechanism by which he works. I wish Galton, who died but recently, could have been here to collect from the great mathematicians now assembled an introspective account of the way in which their minds work.

One would like to know whether students of the theory of groups picture to themselves little groups of dots, or are they sheep grazing in a field? Do those who work at the theory of numbers associate colours or good or bad characters with the lower ordinal numbers and what are the shapes of the curves in which the successive numbers are arranged? What I have just said will appear pure nonsense to some in this room, others will be recalling what they see and perhaps some will now for the first time be conscious of their own visual images. The minds of pure and applied mathematicians probably also tend to differ from one another in the sense of aesthetic beauty Of course, there is every gradation from one class of mind to the other, and in some the æsthetic sense is dominant and in others subordinate.

Both the pure and applied mathematicians are in search of truth, but the former seeks the truth in itself and the latter truths about the universe in which we live. To some men abstract truth has the greater charm, to others the interest in our universe is dominant. In both fields there is room for indefinite advance, but while in pure mathematics every new discovery is a gain, in applied mathematics it is not always easy to find the direction in which progress can be made, because the selection of the conditions essential to the problem presents a preliminary task, and afterwards there arise the purely mathematical difficulties. Thus it appears to me at least, that it is better to find a field for advantageous research in pure than in applied mathematics. Of course if we regard an investigation in applied mathematics as an exercise in analysis the correct selection of the essential conditions is immaterial, but if the choice has been wrong the results lose almost all their interest.

I may illustrate what I mean by reference to Lord Kelvin's celebrated investigation as to the cooling of the earth. He was not, and could not be, aware of the radio-activity of the materials of which the earth is formed and I think it is now generally acknowledged that the conclusions which he deduced as to the age of the earth cannot be maintained; yet the mathematical investigation remains intact. The appropriate formulation of the problem to be solved is one of the greatest difficulties which beset the applied mathematician, and when he has attained to a true insight, but too often there remains the fact that his problem is beyond the reach of mathematical solution.

In conclusion the President appealed for mercy to the applied mathematician, and asked them to consider in a kindly spirit the difficulties under which he laboured. If their methods were often wanting in elegance, and did but little to satisfy that æsthetic sense of which he spoke before, yet they were honest attempts to unravel the secrets of the universe in which they lived.



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